15c

OIL WEEKLY
THE WEEK'S NEWS INTERPRETED

Use REED DK ROCK BITS

FASTER HOLE WITH LESS WEIGHT

MORE HOLE PER BIT and GREATER PROTECTION TO YOUR DRILL STEM

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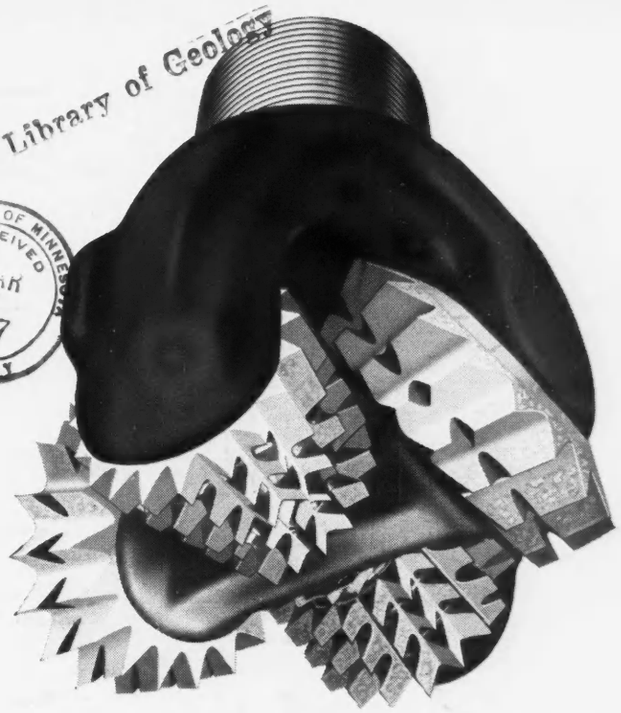
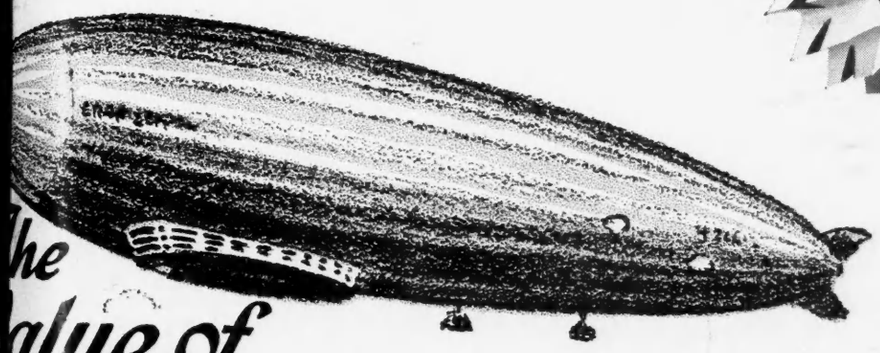


The REED DK 1



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WHO SAVES TIME SERVES PROGRESS

The history of Reed bits has been one of successive time-saving improvements . . . roller bearings . . . four point support of cross roller type bits . . . numerous metallurgical advancements.

Each Reed step has served drilling progress as the steps from sailing vessel . . . to steamship . . . to dirigible . . . have served transportation progress.

NOW COMES THE GREATEST TIME-SAVING BIT OF THEM ALL . . . **the new, fast, rugged Drill King . . .**

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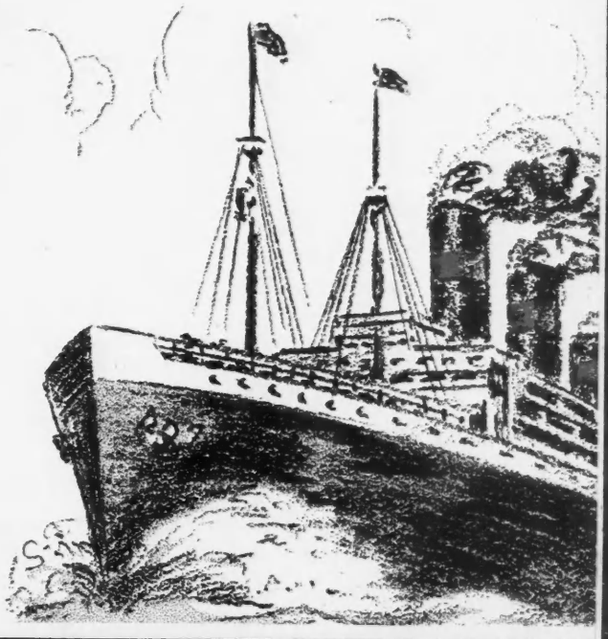

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GREEN SIGNIFIES SAFETY

Wire line replacement means more than just the cost of a new line. It means lost digging time as well. And the value of this lost time is directly chargeable to the line. That is one of the things that makes some lines really costly.

TRU-LAY Preformed aids production by lasting longer and reducing shut-downs. Furthermore, TRU-LAY is easier to handle and therefore faster to reeve. It resists fatigue, kinking, and spools perfectly on the drum. • During the last thirteen years TRU-LAY Preformed Rotary Line sales have increased amazingly because more and more operators have found it lasts longer and, therefore, boosts production. American Cable pioneered in the development and perfection of preformed wire rope.

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AMERICAN CHAIN & CABLE COMPANY, Inc.
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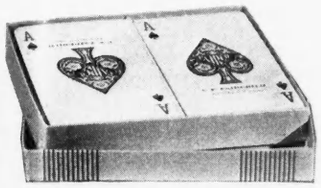
Here's a Good Way to Find Out, and at the Same Time

WIN A VALUABLE PRIZE!

Perhaps you already know the answers to most of the questions below, but if not there are plenty of clues given to help you win a useful prize. All answers can be found in the 1937 Composite Catalog, and in the Baker Catalog which we will gladly send to any oil man.

Any person employed in the Drilling or Production Branches of the Oil Industry is eligible. There is no entry fee—nothing to buy—no special knowledge is required. Just place a check mark opposite the answer you believe to be correct—or write your answer in the space provided. Then cut out this page along the dotted line and mail to the address below. Contest closes at midnight March 31, 1937, and no envelope postmarked after that time can be considered. You may win an extra prize for promptness—see details below.



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EXTRA PRIZES IF YOU ARE PROMPT

If you are one of the First 10 persons sending Correct Answers to all 20 Questions, not only will you receive the Twin Deck set of playing cards, but we will pack them in a handsome leather case with your name gold stamped on cover. It Will Pay you to Start Now, and to Spend Extra Time to Be Sure Your Answers are ALL Correct!

LIST OF CORRECT ANSWERS will be Published in the April 5, 1937, Issue of the Oil Weekly. Send in your Answers promptly — then watch for this issue to check your I. Q.

Note: This contest is not open to persons residing in states where prize contests are not permitted by law. BUT IF YOU WANT TO TEST YOUR I. Q. go ahead and answer the questions and send in this page. WHETHER YOUR ANSWERS ARE RIGHT OR WRONG we will place your name on our list to receive for the rest of the year 1937 the little booklet called FRIENDLY CHAT, published monthly, which is full of stories, poems and quotations to give you a smile—to bring sunshine into dull days—to make you realize what friends should mean to you, and what your friendship means to others. This offer applies ***only*** if you live in a state whose laws ***will not permit you to compete for prizes.***

ALL READY? . . . HERE ARE THE QUESTIONS!

CUT OFF ON DOTTED LINE AND MAIL TODAY!

1. What large Supply Company is celebrating its 75th Anniversary in 1937?
   .....

2. The valve in a "Bakwik" Drill Pipe Float . . .
   .....screws into the body
   .....is held in place by the tool joint pin
   .....locks into a tee-slot

3. Baker Kelly Straighteners operate by
   .....steam pressure
   .....leverage on a crow bar
   .....hydraulic pressure

4. If drill pipe has been twisted off in a cave, what Baker Oil Tool would you find useful?
   .....

5. The valve assembly in a Baker Cement Float Shoe is made of . . .
   .....concrete .....bakelite
   .....cast iron .....brass

6. Name three important uses for the Baker Model F Cement Retainer . . .
   a. .....
   b. .....
   c. .....

7. Cement can be directed upward around the shoe and casing by using a . . .
   .....Baker Cable Tool Core Barrel
   .....Baker Cement Dump Bailer
   .....Baker Cement Whirler Float Shoe
   .....Baker Yungling Spiral Guide

8. Cores taken from extremely hard formations with a Baker Cable Tool Core Barrel usually are recovered in what form or shape?
   .....

9. What is the purpose of the rubber ring in a Baker Cement Float Collar?
   .....

10. If plastered rotary mud prevents a well from coming in easily, what Baker Oil Tool do you need?
    .....

11. One of the many successful uses of a Baker Cement Retainer is to . . .
    .....enlarge the hole before cementing
    .....guide the overshot when fishing
    .....straighten drill pipe
    .....perform squeeze jobs

12. This core was taken from the side wall of an open hole by using a . . .
    .....Baker Cable Tool Core Barrel
    .....Baker Wall Hook
    .....Baker Wall Sampler
    .....Baker Whirler Cementing Collar with Basket

13. What Baker Oil Tool is used to cut formation as shown in this illustration?

    .....

14. If you want to retain cement "tailings" inside the casing, what one of these Baker Tools would you use?
    .....Baker Cement Retainer
    .....Baker Cement Float Collar
    .....Bakwik Drill Pipe Float
    .....Baker Cleanout Bailer

15. This material was drilled out of a Baker Cement Float Shoe; what is it?
    .....

16. The minimum reaming size of a No. 3-A Baker Wall Scraper is 5¾"—what is its maximum reaming size?
    .....inches.

17. The valve ball in a Baker Cement Whirler Float Shoe is made of . . .
    .....rubber .....cement
    .....bakelite .....wood

18. The Canvas Basket Assembly on a Baker Whirler Collar serves to . . .
    .....prevent blowouts
    .....scrape off rotary mud
    .....protect lower oil sands from cement

19. Baker uses concrete in all equipment for guiding, floating and cementing casing, because it is . . .
    .....easy to drill up and circulate out of the hole
    .....stronger than cast iron
    .....cheaper than alloy steel

20. What color concrete is furnished in Baker Cement Equipment to determine the presence in "returns" of material drilled out of the shoe or collar?
    .....

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My name is.....

I work for the.....**Oil Company**

My position is.....

My street address.....

City.....**State or County**.....

Mail this to . . .

BAKER OIL TOOLS, INC.
P. O. Box 71
HUNTINGTON PARK, CALIFORNIA, U. S. A.

Remember that the correct answers will be published in the Oil Weekly of April 5, 1937— atch for it.

CUT OFF ON DOTTED LINE AND MAIL TODAY!

WE FIX FLATS

A typical example of Goodrich improvement in rubber

CONVEYOR belt users who have watched their belts go to pieces have wished that damaged belts could be fixed as easily as flat tires can be vulcanized. But to repair a belt requires a press capable of enormous pressure under heat, to vulcanize the patch, and a belt press weighs 30 tons. So a gouge or tear in a conveyor belt has been left to spread until the belt breaks and has to be thrown away, long before normal use wears it out. Time lost, good belting thrown away.

A Goodrich engineer developed an effective repair patch which could be used anywhere but—how to vulcanize it in the field? Experiments began, and at last a miniature press was perfected that does everything the 30-ton press does, yet can be carried by two men.

Now, the moment a conveyor belt is gouged or torn, the hole can be repaired by the Goodrich patch, vulcanized by this "traveling belt factory," and made as good as before the accident.

In one plant this Goodrich development saved $422 in the case of one belt alone, in addition to reducing expensive shut-downs. In *every* plant there are *many* ways to save by use of Goodrich developments, because Goodrich research is constantly at work to make every Goodrich product —belting, hose, packing and thousands of others, a better buy for industry. The B. F. Goodrich Co., Mechanical Rubber Goods Division, Akron, Ohio.

Goodrich

ALL *products problems* IN RUBBER

THE OIL WEEKLY

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The Oil Man's Calendar

MAR. 12	Interstate Oil Compact Commission, Oklahoma City, Oklahoma.
17–19	American Association of Petroleum Geologists, Los Angeles.
APR. 8–10	Petroleum Industry Electrical Association, Shreveport, Louisiana.
13	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles.
15–16	National Petroleum Association, Cleveland, Ohio.
26–28	Western Petroleum Refiners Association, Hot Springs, Arkansas.
MAY 6–7	American Petroleum Institute, Division of Production, Eastern District, Columbus. Ohio.
10–16	American Gas Association, Natural Gas Department, Kansas City, Missouri.
19–21	Natural Gasoline Association of America, Tulsa.
23–27	National Association of Purchasing Agents, (Oil Company Buyers Group), Pittsburgh, Pa.
JUNE 1–3	American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado.
11	Interstate Oil Compact Commission, Santa Fe, New Mexico.
17–19	Pennsylvania Grade Crude Oil Association, Sailing from Buffalo, New York.
25–27	National Oil Scouts Association, Dallas, Texas.

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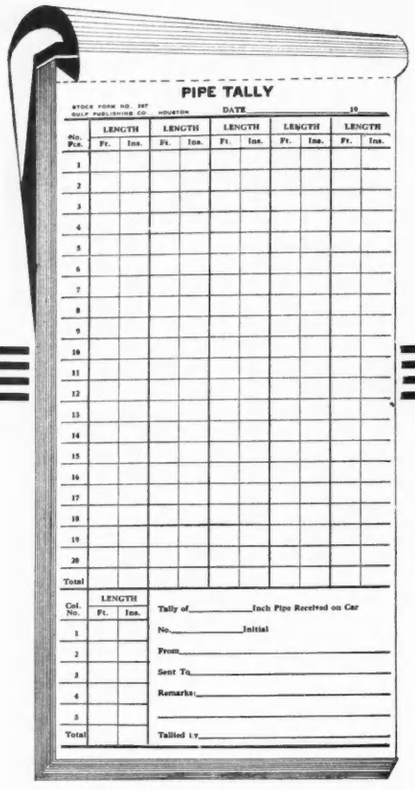

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LOOKING AHEAD

WITH THE EDITOR

FOR several reasons the Fitts field of Pontotoc County, Oklahoma, occupies a dominant position in the northern Mid-Continent. Aside from the volume of its daily production and estimated crude reserves, the pool is an interesting study because of the development problems and practices that will exert their influence on operations in other areas in the future.

Before the size of the field was realized, it was of considerable importance because of its influence on wildcat activity. There has been an increase in wildcat drilling in South and Southeastern Oklahoma because of the discovery, which opened a new region of considerable size for exploration.

Another major influence exerted by Fitts has been the adaption of methods new to the Mid-Continent, and it will be a greater factor in the future. Certain specific problems were encountered that made it desirable to use pressure drilling and special cementing methods.

Still another important engineering development at Fitts is the proration method. Firms holding acreage are unanimous in their efforts to have highly modern productive control and development. Valuable statistics have been obtained on pressure drop, reservoir energy loss and accumulative production still the beginning of the field. These data are being used to correlate the field and bring economical operations along with the greatest ultimate yield.

The interesting story of Fitts has been written by Frank B. Taylor, staff writer, after months of gathering information from every source. His article will be published next week. In this connection it is of interest to study the unusual geology of the region, which appears in this issue.

FORGED STEEL UNIONS

BUILT TO ENDURE

HANDLE BAR

STEEL-to STEEL SEATS | BRASS-to BRASS SEATS

3/8" to 4"

Use a hammer instead of wrench to loosen or tighten nut.

Because they are accurately machined from split die forgings of high-manganese open hearth steel, with extra heavy ends and nuts and with nut-threads permanently lubricated, rust-proofed and spark--proofed with Udilyted cadmium, YOUNGSTOWN Forged Steel Unions are impervious to galling, reduce fire and explosion hazards and can be used over and over again.

Each of the four types shown on this page has its own particular applications in which its use gives increased safety, lower costs, or both.

The Handle Bar Union (upper left) is particularly adapted for use on oil loading racks, on stand pipe on drilling rigs and on steam piping on rotary drilling rigs.

Write today for complete descriptive folder, AM-72

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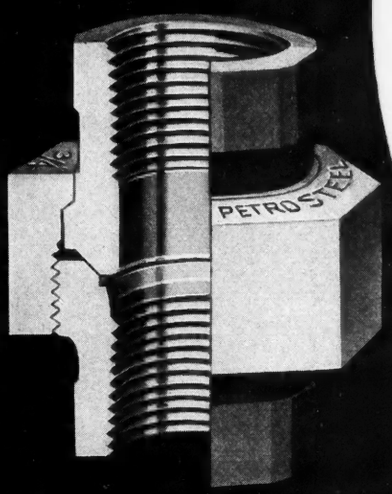
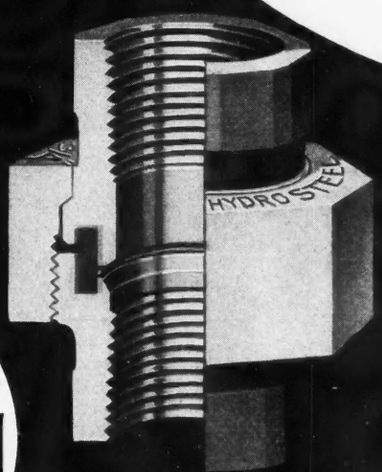


PETRO

STEEL-to-STEEL SEATS

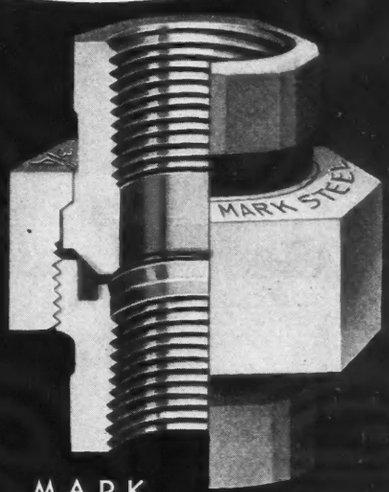
1/8" to 3"



HYDRO

BRASS-to-BRASS SEATS

1/4" to 3"



MARK

BRASS-to-STEEL SEATS

1/4" to 3"

FORGED STEEL TRADE MARK YOUNGSTOWN UNIONS

Youngstown's Unions are furnished Udilyted or black

YOUNGSTOWN

Photograph shows Mission Valve Seats ready for packing and shipping.

●

No. 7 of a Series on Mission Shop Practices

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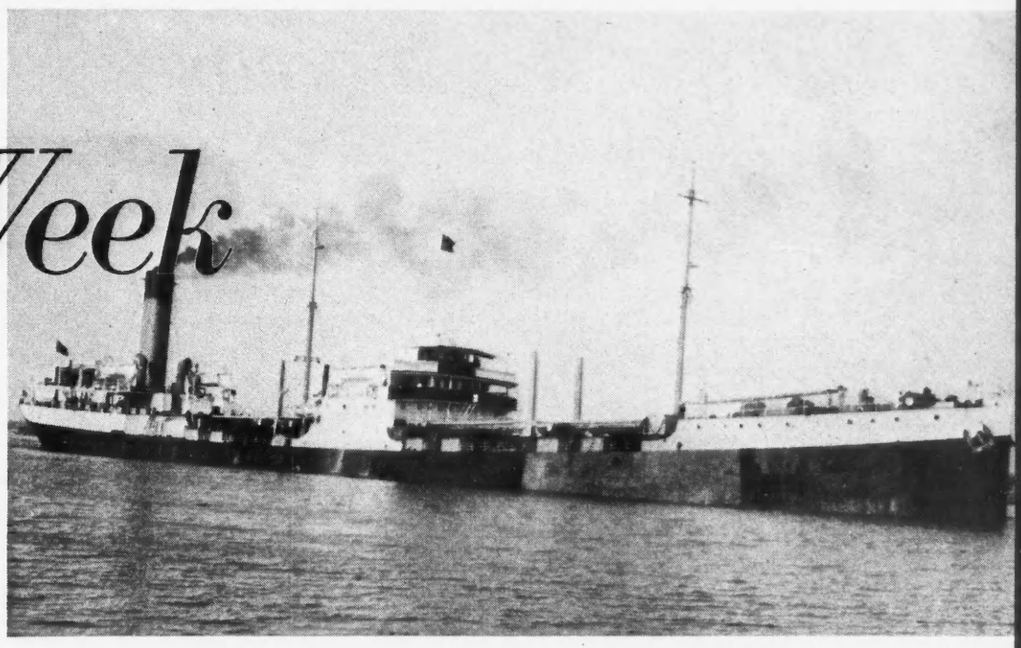
Mission Slips . . . Mission Valves . . . Mission Pistons . . . Mission Piston Rods . . . Mission Swabs

Sold Through Supply Stores Everywhere

This Week



THIS tanker with a cargo of gasoline is but on of many that sail through the Houston Ship Channel. The Houston and Beaumont-Port Arthur district, a stretch of 100 miles along the Gulf Coast, has become the largest petroleum refining and water shipping center in the world. This particular boat is headed for England.

ADDITIONAL new high peaks in crude production of the United States are to be expected during March. The Bureau of Mines has announced an increase of 90,400 barrels in the nation's March allocation over the quota it recommended for February. The largest increase went to Texas, which received approximately half of the raise. The new quota is 15 percent, or 420,100 barrels daily, greater than a year ago. The recommended level for United States production in March is 3,159,000 barrels, which is still below the level at which the nation has been producing. Recent weeks has seen production averaging 3,280,000 barrels. It is anticipated that production will continue to remain nearly this percentage ahead of the bureau figures, which indicates daily recovery will exceed 3,300,000 barrels during the coming month.

Page 10.

THE Texas Railroad Commission has set the state's allowable for March at 1,398,514 barrels, which is an increase of 69,036 barrels over the quota granted February 1, and 141,914 barrels higher than the Bureau of Mines recommended for the state. Texas purchasers had filed requests for 1,565,231 barrels daily. East Texas was left unchanged, but most of the other flush fields received increases.

Page 11.

PRESIDENT ROOSEVELT is considering new proposals for industry control, which would fix minimum wages and maximum working hours and pave the way for a system of voluntary agreements. He is contemplating a bill making it a violation of fair-trade laws to pay excessively low wages and work employees unduly long hours. The plan follows the NRA, but is said to be free of defects that caused its invalidation by the courts.

Page 10.

ANOTHER step will be taken in the government's oil conspiracy case next Wednesday, when 70 individual defendants will enter formal pleas to two sets of indictments charging violation of anti-trust laws. All are expected to plead innocent. Actual trial is expected to start June 1.

Page 12.

CURRENT SITUATION

Outlook.—Continues favorable.

Crude Market. — Pennsylvania grade advanced 10 cents.

Refined Oil Markets. — Dealer prices of kerosene raised in Middle West.

Crude Production.—Down 8,450 barrels to 3,277,725 daily.

Crude Runs to Stills.—Up 45,000 barrels to 3,065,000 in week ended February 20.

Crude Stocks.—Up 42,000 barrels in week of February 13, to 286,158,000 barrels.

Gasoline Stocks. — Up 1,213,000 barrels in week ended February 20, to 74,798,000.

Gas and Fuel Oil Stocks.—Down 1,344,000 barrels in week ended February 20, to 99,391,000 barrels.

Drilling.—Completions up 70 last week; total 467 wells.

See* MARKET SECTION *for Details

IT became known last week that union organizers plan a drive to unionize oil industry workers. A fund of $500,000 is said to be available from the CIO, which is also expected to send 200 organizers into the industry early in April. General opinion is that it will be more difficult to organize the petroleum industry than either the automobile or steel industries because of its decentralization, which would prohibit any one plant from tying up business. Moreover, most of the workers must come from the retail branch, which is scattered throughout every state and includes numerous small concerns in small communities.

Page 12.

ADOPTION of remedial measures have resulted in the weighted average pressure of the Texas Panhandle field being higher than on a previous survey, according to H. M. Stalcup of Skelly Oil Company, who reviews the development of the pool and expresses the belief that the striking down of proration orders by the United States Supreme Court will not cause a return to the shameful wastage of preceding years.

Page 31.

THE Fitts field of Oklahome is one of the most interesting geological studies. It covers 5000 acres and has over 600 wells producing from one or more of eight productive zones. The pool lies in the center of a downthrow triangular-shaped block between two uplifts, and with several faults converging toward the west. The general surface structure consists of two sharp drag synclines, along the limiting east-west faults, and between these, of a broad westward plunging anticlinal fold. The subsurface structure is an east-west trending anticline limited on all but the north side by normal faults. There also are several cross-faults.

Page 18.

Output To Increase

BUREAU RAISES U. S. MARCH ALLOCATION 90,400 BARRELS

WASHINGTON, D. C.

NEW high levels of crude oil production are envisioned in the monthly forecast of the Bureau of Mines, in which average daily production for March is estimated at 3,159,000 barrels, an increase of 90,400 barrels over February and 420,100 barrels or 15 percent, higher than the estimate for March, 1936.

"During the four weeks (January 9 to February 6) the production of crude oil averaged 3,220,000 barrels daily, stocks of domestic crude declined at the rate of 7,000 barrels daily, indicating a total demand of 3,227,000 barrels," the bureau commented in discussing the current situation. "The period witnessed a reversal in the trend of crude-oil stocks from one of declines to one of increases, and a continued accumulation in gasoline stocks in excess of the estimates made by the bureau."

Demand Up Nine Percent

A domestic demand of 39,100,000 barrels, or nine percent above the actual of a year ago, is foreseen for motor fuel in March. "Domestic demand for 1936 showed an increase of 10.8 percent over 1935, which was due partially to the large increase in motor vehicle registrations (from 26,200,000 to 28,200,000), and partly to the continued upward trend of motor fuel demand per motor vehicle," it was pointed out. "Demand during the last few months has also been favorably influenced by the unusually mild winter, particularly along the Atlantic Coast where nearly one-third of the gasoline is consumed."

Exports of motor fuel for the coming month are estimated at 2,300,000 barrels, or 100,000 barrels more than the estimate for February and 700,000 barrels over the abnormally low figure of March of last year.

An increase of 3,100,000 barrels in stocks of gasoline is anticipated which, if realized, will bring stocks up to about 72,000,000 barrels. "Stocks of finished and unfinished gasoline on December 31 amounted to 62,885,000 barrels, an increase of 4,086,000 barrels during the month," the bureau said in this connection. "According to the American Petroleum Institute, stocks were further increased during January by about 6 000,000 barrels, making motor fuel stocks on January 31 close to 69,000,000 barrels, compared with 62,754,000 barrels on the same date in 1936."

43,000,000 Barrels of Gasoline

Benzol and direct sales and losses of natural gasoline have been estimated at 850,000 barrels, making the estimated production of gasoline 43,650,000 barrels, distributed among the districts by the bureau as follows: East Coast, 6,510,000 barrels; Appalachian, 1,590,000 barrels; Indiana-Illinois, 7,430,000 barrels; Oklahoma, 2,750,000 barrels; Kansas-Missouri, 2,620,000 barrels; Texas inland, 3,490,000 barrels; Texas Gulf, 9,690,000 barrels; Louisiana Gulf, 1,650,000 barrels; North Louisiana - Arkansas, 920,000 barrels; Rocky Mountain, 950,000 barrels; California, 6.050,000 barrels.

Natural gasoline consumption at refineries will be 6.1 percent of the total gasoline required, or 2,660,000 barrels, according to the forecast. The yield of straight-run and cracked gasoline will be 43.59 percent, an increase of about 0.55 percent over February. The application of 40,990,000 barrels gives 94,030,000 barrels as the crude required at refineries.

Runs of foreign crude have been estimated at 2,900,000 barrels, which on a daily average basis is slightly lower than for February; exports of crude are placed at 4,000,000 barrels, and fuel and losses at 2,800,000 barrels.

Application of these factors gives a required daily production of 3,159,000 barrels, distribution of which among the producing states is recommended by the bureau as shown in the accompanying table.

The largest increase in allocation west to Texas, which was raised 53,200 barrels as compared with its February, 1937, quota. However, this state has consistently been producing in excess of even its new recommended level. Its production has been averaging approximately 1,300,000 barrels daily during the past month, the Railroad Commission of the state is expected to continue to set its own figures far ahead of the bureau.

The second largest increase over February was given by the bureau to Louisiana, which was up 14,900 barrels. Peculiarly, Oklahoma was given the third largest boost when increased 8,800 barrels just when operators were admitting that Oklahoma City, largest producing field in the state, was having trouble making its allowable.

Increases in March allowables over those existing in February in other states were listed by the bureau as follows: Kansas, 8000 barrels; New Mexico, 6600 barrels; Michigan, 900; New York, 500; Wyoming, 300; Kentucky and Illinois, 200 each; and West Virginia, 100 barrels. Arkansas and Indiana remained unchanged.

Decreases in state allowables were distributed as follows: California, 2400 barrels; Pennsylvania, 400; Ohio and Colorado, 200 each; and Montana, 100 barrels.

Recommendatory Levels of Required Crude Oil Production, by States*

(Daily averages in barrels)

STATE	Forecast March 1937	Forecast February 1937	Actual Production December 1936
Texas	1,256,600	1,203,400	1,229,000
Oklahoma	590,700	581,900	605,400
California	570,900	573,300	583,800
Louisiana	240,000	225,100	235,500
Kansas	178,000	170,000	173,900
New Mexico	88,200	81,600	87,000
Pennsylvania	49,000	49,400	49,500
Wyoming	42,200	41,900	45,000
Michigan	30,300	29,400	27,300
Arkansas	28,500	28,500	26,700
Kentucky	16,500	16,300	15,900
Montana	14,600	14,700	16,700
New York	13,500	13,000	14,400
Illinois	12,900	12,700	12,500
Ohio	10,300	10,500	10,400
West Virginia	10,300	10,200	11,000
Colorado	4,300	4,500	3,800
Indiana	2,200	2,200	2,300
	3,159,000	3,068,600	3,150,100

*The recommendations in this table have been calculated as the requirements for the months stated and are not intended to be calculations of daily average demand for the current year or for any period other than the months stated.

NEW CONTROL PLAN

President studies wages and hours proposals

WASHINGTON, D. C.

NEW proposals for industry control under which minimum wages and maximum working hours would be fixed by the Government and the way paved for a broad system of voluntary agreements for the banning of unfair trade practices, are under consideration by President Roosevelt.

The proposal contemplates the enactment by Congress of a bill making it a violation of existing fair-trade laws for concerns engaged in interstate commerce to pay excessively low wages or work employees unduly long hours.

Administration of the act would be turned over to the Federal Trade Commission, where a new board would be created to formulate wage and hour standards for each industry after hearings, in much the same manner as the National Recovery Administration operated during the code period.

At the same time, legislation would be passed broadening the commission's authority with respect to fair-trade agreements which, however, would still be voluntary, their adoption being encouraged by giving them exemption from the application of the anti-trust laws, which was a feature of the recovery codes.

Raise Texas Quota

MARCH OUTPUT SET 69,036 BARRELS ABOVE JANUARY

AUSTIN.

THE Texas Railroad Commission Friday issued its March statewide proration order setting the state allowable at 1,398,514 barrels, a gain of 69,036 barrels daily over the allowable for February 1. The increase represents allowables granted to new wells, plus a raise of 38,420 barrels given new fields. This time the commission chose to follow more closely its own determination of market demand as represented by nominations filed with the commission by purchasers of Texas crude oil. These nominations totaled 1,565,231 barrels daily, or 166,717 barrels more than the allowable fixed. This allowance, however, exceeds by 141,914 barrels the Texas consumer demand for March as calculated by the United States Bureau of Mines.

The allowance for East Texas remains at 2.32 percent of the hourly potential, but increases were granted in the remainder of the large flush fields where requests were filed.

Increases in Many Fields

The South Jack field was increased 1284 barrels to 6841 barrels. Jones County received a raise of 473 barrels and now has an allowable of 5387 barrels. South Young was given an allocation of 6048 barrels, an increase of 438 barrels.

In West Texas the following principal changes were made: Bennett, up 365 barrels to 400 barrels; North Cowden, raised 506 barrels to 8025 barrels; Crane-Cowden, up 900 to 1851 barrels; Eaves (new field), 459 barrels; Estes, advanced 2500 barrels to 7521; Foster, increased 391 barrels to 1276 barrels; Henderson, up 2175 to 4280 barrels; Means, advanced 703 to 2260 barrels; Southward, hiked 2175 barrels to 17,153; Yates, raised 6470 barrels to 35,000 barrels.

The following changes were made in East Texas: Rodessa, advanced 4925 barrels to 39,400 barrels; Sulphur Bluff, up 1125 barrels to 2375 barrels; Talco, increased 3900 to 19,389 barrels; and Van raised 2500 to 36,521 barrels.

Following are the changes made in South Texas: Heyser, up 300 to 2540 barrels; Tomoconnor, up 1225 to 10,250 barrels; Aransas, advanced 500 to 900 barrels; Captain Lucey, 715 barrel increase to 1415; Flour Bluff, up 600 to 2500 barrels; North Government Wells, raised 562 barrels to 11,500; Lopez, hiked 469 barrels to 9030; Saxet (old), advanced 359 to 2338 barrels; New deep Saxet, raised 824 barrels to 5007 barrels; Saxet shallow, up 3522 to 10,813 barrels; Saxet Frio, raised 1200 to 14,000 barrels; Taft up 465 to 3632 barrels.

The following allowable changes were made in the Gulf Coast; Anahuac, raised 1351 to 13,580 barrels; Conroe, increased 3156 to 47,150 barrels; Hastings, up 1658 to 12,580 barrels; Nome, hiked 356 to 1098 barrels; Old Ocean, up 349 to 509 barrels; Pickett Ridge, raised 720 to 2555; Thompson, up 5000 to 14,610 barrels.

The commission ordered a reduction of 402 barrels for the Leck field, leaving an allowable of 438 barrels. Brown-Altman, Sayre and Keys have been combined in the new Kermit field, and given a total allowance of 17,753 barrels.

Texas March Allowables by Districts

DISTRICT	January 1	February 1	March 1
East Texas	447,861	451,000	453,000
Panhandle	69,110	76,610	75,610
Moore County	1,500	1,500	1,500
Osborne Area	725	725	725
North Texas	62,750	63,750	75,750
Foard County	400	650	650
West Central Texas	60,005	62,310	64,428
West Texas	15,026	168,968	188,463
East Central Texas	62,747	66,950	74,479
Rodessa	29,125	34,475	39,400
Southwest Texas	187,107	215,611	227,486
Gulf Coast	176,151	191,949	207,023
Total	1,248,907	1,329,478	1,398,514

Texas Hearing

OPERATORS ASK OUTPUT RAISE; THOMPSON WANTS PRICE DATA

AUSTIN.

A REQUEST that each oil company purchasing crude and selling gasoline in Texas file an affidavit showing how prices for these products are determined, the presence of Secretary of the Interior Harold L. Ickes, and demands for increased allowables in several fields with no indication on the part of producers to cut production, were features of the Texas state wide hearing on February 20 before the Railroad Commission.

Wants Price Procedures Filed

Railroad Commissioner Ernest O. Thompson made the request that oil companies purchasing crude and selling gasoline in Texas file a report showing how prices for these products are determined. He pointed out that there was some question as to the difference in prices paid for crude oil and that charged for gasoline, and asked that such affidavits be filed with the Railroad Commission and that they be signed by the president of the company.

The question was raised when Thompson brought out that Phillips Petroleum Company, which recovers 25 gallons of gasoline per barrel of crude oil processed, had raised the price of crude 10 cents a barrel and the price of gasoline one cent a gallon. The commissioner pointed out that the company would pay, therefore, 10 cents a barrel more for crude and receive 25 cents a barrel more from the sale of the product derived from this barrel of oil.

Thompson explained that the Railroad Commission is charged by statute with the duty of controlling the production of crude oil, and also with the duty of preventing excessive prices for gasoline.

Ickes Makes Short Talk

Harold L. Ickes, secretary of the interior, was in Austin to discuss flood control projects along the Colorado River and accepted an invitation from Commissioner Thompson to attend the oil hearing.

In addressing the men he disclaimed any idea of ever controlling the industry beyond the desire to improve conditions. "The only interest the federal government ever had in the oil business was not such an interest as we were misrepresented as having, namely, that of taking over your industry and running it; we wanted you to get every possible barrel of oil out of every well, and we wanted you to get the best possible price for every barrel of oil."

He complimented the commission for its successful control of the oil industry and told operators that the federal government had no desire to extend its control over the industry if the states were successful in their efforts to keep the situation in hand.

Operators Seek Larger Output

Increases in the allowables for several fields were requested and there seems to be no desire on the part of purchasers to cut production.

Commission officials reported that since January 1, there have been 1,204 new wells completed in Texas of which 482

[*Continued on page 44*]

Union Drive

PLANS MADE TO ORGANIZE OIL INDUSTRY WORKERS

HOUSTON.

ANNOUNCEMENTS of plans for the unionization of the oil industry, announced in Houston and Washington during the past week have caused a great deal of speculation as to the possibility of success of such plans. Estimates of "1,000,000 oil workers" made by officials of the International Oil Field, Gas Well and Refinery Workers of America include some 700,000 filling station operators, 150,000 men in the field, 100,000 in refineries and 25,000 in transportation.

Efforts at unionization have made some progress in the industry, chiefly in the refining branch, but strong company organizations with representatives who are already empowered to take up with the management such questions as affect workers and companies, coupled with rates of pay which compare most favorably with other industries, are expected to be stumbling blocks to unionization efforts.

Too, the activities of the International Oil Field, Gas Well and Refinery Workers organization during war time when strikes threatened to cripple the ability of American operators to furnish the government necessary supplies have not lent a particularly good odor to the organization.

A Difficult Task

It is generally conceded that efforts to organize oil industry workers will be more difficult than either automobile and steel. A large part of the "million workers" sought are in the retail branch, and are scattered throughout the nation and many of which are working for small firms in small communities.

Further, it is said, there are no "bottlenecks" in the industry in the form of plants whose closing would tie up any major concern, nor would even a widespread strike serve to cause a shortage of gasoline, of which there is about a month's supply in stock with possibilities of a further build-up should danger threaten.

Drive Starts April 5

Plans for the nation-wide drive starting April 5 to unionize oil industry workers were made in Houston by Roy Sessions, president of Local No. 227 of the International Oil Field, Gas Well and Refinery Workers of America, which is affiliated with the Committee for Industrial Organization (CIO). This date is co-incident with the convening in Houston of the executive council of the organization, which is expected to draw 100 delegates from 16 states. The present membership of the union in the oil industry is estimated by Harvey C. Fremming, international president of the International Oil Field, Gas Well and Refinery Workers of America, as being 218,000, all which are in pipe line, production and refining work.

It is expected that John L. Lewis will take an active part. He is head of CIO, and one of his staff is known to have made a survey of the industry.

200 Organizers to Work

"We have been assured a fund of $500,000 and 200 organizers will be sent here (Houston) by the CIO committee to initiate the drive," Sessions declared.

Fremming is expected to arrive in Houston March 15 to take charge of preliminary work.

Houston and the Beaumont-Port Arthur district, center of the world's largest refining and oil shipping area, will be focal point of the drive.

At first thought was expressed that opposition to the CIO unionization drive would be coming from William Green, president of the American Federation of Labor, but later reports discount these rumors. While not endorsing the CIO drive, the Houston Labor and Trade Council, affiliate of AFL, made it known they were not fighting the CIO efforts in the oil industry. The AFL, however, is driving to bring oil industry workers into its various craft councils. It is said the two organizations will respect the rights of the other group.

Anti-Trust Trial

SEVENTY INDIVIDUALS ARE TO ENTER PLEAS ON WEDNESDAY

MADISON, WIS.

THE government's "oil conspiracy" case will move one step closer to trial Wednesday, March 3, when formal pleas to two sets of indictments charging violation of anti-trust laws will be entered by 70 individual defendants.

All the defendants are expected to plead innocent to the charges when they appear before Federal Judge Patrick T. Stone this week. The court ordered individual defendants, for the most part prominent officials of major oil companies, to be here in person.

Attorneys entered innocent pleas in behalf of 26 major companies here February 1.

Counsel for many of the individual defendants who were fighting removal to Madison for trial recently announced their clients would voluntarily appear here this week to answer the charges and make possible an early trial. The charges have been investigated by two grand juries here since early last May.

Trial Starts June 1

Following agreement between defense and government attorneys, Judge Stone set June 1 as the date for starting trial of one of the indictments—that issued July 28 and which charges 24 major companies, 3 trade journals and 56 individuals with conspiracy to fix and maintain artificially high prices of gasoline to independent jobbers. Trial of this indictment is expected to take at least six weeks.

Second Trial Later

A subsequent indictment, involving 23 companies and 46 individuals, many of whom are also charged in the July 28 indictment, is to be tried later. It was issued November 6 and charges conspiracy to maintain uniform jobbers' contracts.

Charges in both indictments grew out of alleged illegal operation of buying programs in the East Texas and Mid-Continent fields through which major oil companies took distress gasoline from independent refiners. The programs are identical to those set up

QUOTA EXCEPTIONS

For Texas wells unable to meet allowables

AUSTIN.

AT a special hearing before the Railroad Commission last week, Commissioner Ernest O. Thompson enunciated the policy that the commission will grant exceptions in allowable of wells unable to produce efficiently under the Railroad Commission proration orders.

While this inference was clear from the commissioner's remarks, it seemed that he had in mind especially those wells encountering unusual water difficulties. The question was raised at a special hearing on the application of Strake Petroleum Company for an allowance for its well, Ethridge 4, located in the Conroe field.

Testimony showed that every effort had been made to reduce production on the well to the allowance fixed by the commission. On one occasion the well was killed and was brought back to production only after it had been pumped 5 days, during which time it produced nothing but water. Commissioner Thompson declared that it was not the purpose of the commission to "manage" wells, but merely "regulate" them. He explained that he thought the commission had no legal right to cut production on a well to a point that would cause it to cease flowing and be placed on the pump.

Operators present indicated, by their remarks, that they believed maintenance of this policy would result in applications for numerous exemptions which would not ordinarily be justified.

under government approval through the NRA code, oil officials declare.

The formal arraignment of individual defendants Wednesday will terminate a legal battle of technicalities which has been waged here since early December.

On December 7, with arraignment of 17 of the individual defendants scheduled, William J. Donovan, New York, chief defense counsel, challenged the indictments as illegally drawn, pointing out irregularities in the selection of the grand jury which returned them. The move plainly surprised government attorneys, who immediately impaneled a new grand jury which returned a substantially similar set of indictments on December 22, after one week of hearings. The challenged grand jury had been in session the greater part of six months.

Judge Stone subsequently held that, while there appeared to be irregularities in the selection of the first grand jury, the rights of the defendants were not prejudiced. He dismissed the pleas in abatement filed by the defense, leaving two sets of indictments before the court.

To Substitute Indictment

Government attorneys may, within 10 days from Wednesday's hearing, substitute one of the indictments returned December 22 for that returned July 28 and which is scheduled for trial June 1. Although not formally announced, it has been reliably understood this substitution will be made.

Only difference between the indictments charging conspiracy to fix and maintain artificially high prices to jobbers is that, in the December 22 indictment, Tide Water Associated Oil Company, New York, a Delaware corporation, is added to the list of corporate defendants, and the name of R. G. A. van der Woude, president of Shell Union Oil Corporation, is dropped. The name of Fred L. Koopman of Phillips Petroleum Company is substituted in the new indictment for that of H. E. Koopman who was named in the July 28 indictment.

On Wednesday, Judge Stone will also hear further arguments on a defense plea to release several tons of impounded documents used by the grand juries and which belong to the oil companies, and on a plea to release grand jury witnesses from their oaths of secrecy.

Release Part of Evidence

A small part of the several tons of documentary evidence has been released by the court. Defense counsel seek release of the rest, the major part of that subpoenaed. Judge Stone has given defense counsel permission to remove any part of this material to aid them in preparing for trial, but only under the stipulation that it be returned 30 days before trial.

During previous hearings, Judge Stone indicated he would hesitate to release grand jury witnesses from their oaths of secrecy. He has not formally ruled on this plea, however, and additional arguments will be heard this week.

The ruling on plea of Western Petroleum Refiners Association, not named in either set of the indictments returned here, for release of impounded documents, is also expected this week.

A.P.I. Meeting

MID-CONTINENT ENGINEERS DISCUSS CURRENT TRENDS

TULSA.

OBSTACLES to continued prosperity for the oil industry and various engineering trends were discussed at the spring meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production. Taxes, possible labor difficulties, political relationships, and the present basis for fixing allowables were set forth as the factors most apt to undermine prosperity in the industry. Engineers discussed well completion methods, shallow drilling rigs, plugging back to avoid water encroachment, Panhandle gas situation, Fitts field geology and development, Kansas potential practices, and water flooding operations in the Mid-Continent.

Van Bennett Elected Chairman

New officers for the district were elected as follows: Van D. Bennett, British-American Oil Producing Company, Tulsa, chairman; Oscar L. Hatcher, consulting geologist, Ada, Oklahoma, vice chairman for Oklahoma; C. E. Sturdevant, Phillips Petroleum Company, Pampa, vice president for the Texas Panhandle; N. M. Hutchinson, Empire Oil & Refining Company, Eldorado, vice chairman for Kansas; C. H. Keplinger, Shell Petroleum Corporation, Tulsa, secretary-treasurer; and A. S. Ritchie, McPherson Drilling Company, Wichita, chairman of the advisory committee.

Abstracts of the various addresses and papers before the meeting follow herewith.

Elect Advisory Board

Members of the Advisory Committee elected Friday afternoon are:

M. R. Shaffer, Empire Oil & Refining Company, Bartlesville; H. W. Ladd, Stanolind Oil & Gas Company, Tulsa; J. J. Conry, Carter Oil Company, Tulsa; K. A. Covell, Pure Oil Company, Tulsa; C. A. Daniels, Phillips Petroleum Company, Amarillo; J. D. Dyer, Continental Oil Company, Ponca City; W. W. Fleming, Ohio Oil Company, Tulsa; H. A. Glover, Derby Oil Company, Wichita; R. K. Huey, Deep Rock Oil Corporation, Tulsa; T. C. Johnson, Wichita; Lewis List, Eldorado Refining Company, Eldorado, Kansas; Glenver McConnell, Shell Petroleum Corporation, Tulsa; C. O. Rison, Indian Territory Illuminating Oil Company, Oklahoma City; A. H. Proctor, Magnolia Petroleum Company, Ada; J. K. Ellis, Transwestern Oil Company, Oklahoma City; R. S. Kanppenm, Gulf Oil Corporation H. M. Stalcup, Skelly Oil Company, Tulsa; Max Mahaffey, Empire Oil & Gas Company, Pampa; E. R. Filley, The Texas Company, Tulsa; E. N. Wilson, Magnolia Petroleum Company, Ada; W. G. Ricketts, Amerada Petroleum Corporation, Tulsa; C. P. Dimit, Phillips Petroleum Company, Bartlesville; J. H. Stewart, Atlantic Refining Company, Tulsa; G. A. Holloway, Lee C. Moore, Inc, Wichita; L. G. E. Bignell, Oil & Gas Journal, Tulsa; L. E. Smith, National Petroleum News, Tulsa.

★ Engineers must help the practical oil man

In his remarks of welcome Thursday morning Frank Phillips, president of Phillips Petroleum Company, Bartlesville, drew from his experience of 30 years as an oil producer to indicate what the practical man expects from the man of technical training to assure advancement in methods of producing oil.

Here is the one thought I want to leave with you:

"The engineer must help the practical man rather than expect help from the practical man. There is some conflict between you, and competition of thought can be as valuable as competition in other affairs. But you engineers have had expert training and it is your duty to so present your ideas and methods that practical men will appreciate them and on becoming convinced of their value put them in practice. Always remember that it is the practical man who must carry out what you devise."

Phillips spoke of his early experience as "the horse and buckboard days," when 1200 feet was a deep hole. "Then," he added, "along came Cushing with wells 2000 feet deeper and we practical oil men decided that such depths were fine for flowing wells but we knew oil could not be pumped from these depths at a profit."

"You technical men solved that problem easily. What we practical men needed was to be shown how it could be done in a way that would tempt us to adopt your suggestions. We could not be forced to accept your methods, we knew better.

Recovery Yield Improving

"Now I predict the time will come when production methods will be so improved that you will recover close to 100 percent of the oil in a sand. We practical men left at least 70 percent of the oil in the sands in the days of the horse and buckboard. Another task for you is that of recovering a big share of that 70 percent. What is taking place in Pennsylvania, New York and other of the older producing districts indicates that you can do it."

Phillips turned to labor conditions in the oil industry and said:

"I understand we are to have a strike in the oil industry. I wonder why. Statistics show that this industry is paying wages 31 percent higher than the average for industry as a whole. I want to be fair to labor and I believe other men do. Why should an industry with such a record in wages face a strike? Capital deserves some consideration from the hands of

management, just as labor does. We should be able to bring harmony between the labor represented by capital and the labor represented as labor. Much of the details of handling this labor threat will fall upon you men, for you are in the fields and in contact with the men.

★ Five factors are threat to continued oil prosperity

Five factors which threaten continued prosperity in the petroleum industry were discussed by Joseph E. Pogue, Chase National Bank, New Lork, whose topic was "Conserving Prosperity in the Petroleum Industry." These were inflated demand as a basis for state allowables, the drilling of unnecessary wells, difficulties of assimilating new discoveries, too rigid adherence to state quotas despite shifts in sources of supply, the possibility of too much capital coming into the industry.

Dr. Pogue said the practice of fixing allowables on the basis of what purchasers nominated as their requirements for a period was not a true picture of actual consumption for a period and represented inflated demand. Adherence to some central source was recommended as the means of escaping this danger.

He called attention to the fact that proration offers a premium on unnecessary drilling. For the remedy he suggested "it is desirable that the application of proration shall make it unnecessary to drill wells except to produce oil, now thousands of wells are drilled each year merely to maintain allowables.

One approach to the difficulty of assimilating new and unneeded discoveries was his suggestion that the industry maintain a higher ratio of reserves to current production than now exists, a goal which he classed as difficult to accomplish.

The desire of each state to gain a favored position in output was given as the cause for the rigidity in the quota system. As long as demand is on the upgrade little difficulty is encountered in granting allowables. The difficulty will arrive in case of diminishing consumption or even a static condition.

In regard to new capital the suggestion was made that the problem is two fold, a need to safeguard against too much capital in the event of boom psychology and the assurance of adequate increase in capital in the case of sustained scarcity or new discoveries. He said a flexible price structure would be advantageous in either case.

★ New adaptations advance plugging-back work

Practical application of the more modern methods of cementing and plugging back operations was the subject of a paper by C. P. Parsons, vice president, Halliburton Oil Well Cementing Company. A number of special instances where particular difficulties had to be overcome were outlined, with the application of methods previously proven successful being outlined. A variety of individual tasks were considered that might be encountered during routine operation.

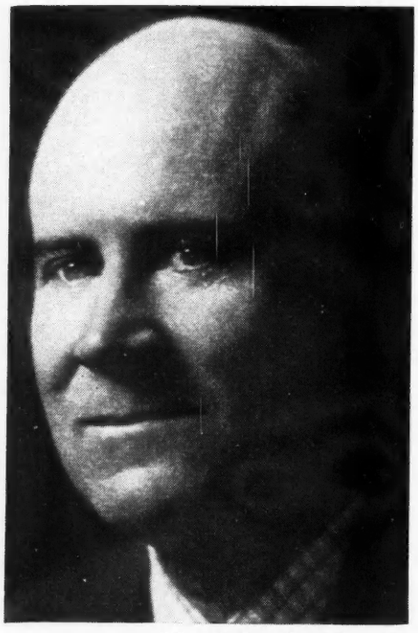
A discussion of the change in a number of processes brought about by new equipment, new cements and new demands by the industry, was included in the paper. It was pointed out that new practices have proven entirely adequate in areas where older methods had resulted in failures, and the belief was expressed that it is only a matter of time before localized developments will become general and recognized as industrial advancements.

"With new adaptations of the displacement and squeeze methods of plugging back with cement; with new slow-setting, self-sealing and gel type cements to help meet certain conditions, and with wall scrapers and bullet casing perforators perfected for remedial purposes, we now have tools to work with which have given startling results in the limited areas where they have been tried," Parsons stated.

He discussed the various types of plug back processes in use.

★ Truck-mounted rotary has several advantages

EXPERIENCE in using one type of portable rotary rig formed the basis for the paper by C. M. Copeland, Helmerich & Payne, Inc., Tulsa, who spoke on "Truck Mounted Rotary Drilling Rigs." Methods of operation and costs



—Oil and Gas Press Bureau.

C. M. COPELAND

were given to show the advantage of using equipment of this nature when drilling only 4000 feet or less.

Cost comparisons for engines of different fuel consumption were given as well as ease of moving to new locations and the methods of handling the equipment at the well.

"In two particular fields the truck rotary rig is especially advantageous," Copeland declared. "First, in wildcat drilling to a maximum depth of 4500 feet in areas where fuel and water are difficult to secure and transportation difficult. Second, in established shallow fields at depths from 1500 to 3500 feet where its mobility and shorter rigging up time offset its slightly slower drilling time."

In assembling the rig a 7½ or 10-ton truck chassis, with 225-inch wheel base, is used. The mud pump, a second motor, and draw works are all mounted integrally on the truck. The unit transports itself from location to location and furnishes all the power used in drilling. The motors are rated at 112 horsepower and will develop 140 brake horsepower at 2100 revolutions per minute.

The mud pump is placed transversely, immediately back of the cab. It is driven by a power take off from the truck motor. The lighting plant is mounted on top of the pump. The second motor, parallel to and beside the mud pump, drives the draw works and rotary turn table. By means of a gear box, the motors can be compounded for handling the drill stem. Either motor can operate all equipment somewhat slowly in an emergency. The draw works are mounted on the rear end of the truck.

In rigging up, the unit is backed up to the derrick and the rear end of the truck frame is set on the derrick floor. The truck frame is leveled up with blocking placed on timbers, so that all weight is taken off the truck springs to give the unit a solid foundation while drilling. A steel header is placed over the draw works and turnbuckled to the derrick sills or foundation. With favorable weather a rig can be ready to spud 24 hours after arriving at the location.

★ Advancements in well completion methods

The paper presented by A. W. Walker, Stanolind Oil & Gas Company, Tulsa, Oklahoma, covered present trends and practices in well completions, and began by showing a few of the relationships between old and new methods. The paper further outlined the need for better well completion methods and data, and the uses of the more definite information thus obtained.

In order to protect the investment entailed by completing the well, which is often highly impractical because of proration and old valuation methods, four points of procedure are outlined and include: Cleansing the face of the sand; sufficient diameter of the well cavity; delay of water or gas cap encroachment, and protection of the various productive zones.

Walker ended his paper with the observation that the accurate estimation of reserves has always been an important subject and necessary for best operations. Although many completions by methods outlined in the paper have been used in South and East Texas, there have been comparatively few in the Mid-Continent, the many pay-zones found there making it an area especially adaptable for the method.

★ Adopt methods at Fitts to fit characteristics

The history and development of Fitts pool of Pontotoc County, Oklahoma, including a discussion of various methods adapted to the particular requirements of conditions individual with Fitts pool, was the subject of a paper by joint authors, each a member of the firm of E. H.

[*Continued on page 44*]

MEN IN THE INDUSTRY'S NEWS

J. L. LATIMER PROMOTED TO POSITION OF ASSISTANT MANAGER OF MAGNOLIA PIPE LINE COMPANY

LATIMER HAS BEEN CONNECTED WITH COMPANY DURING PAST TWENTY-ONE YEARS

J. L. LATIMER

J. L. (SLATS) LATIMER, who has been general superintendent for Magnolia Pipe Line Company in the Texas-Louisiana-Arkansas district, has been promoted to assistant manager, succeeding W. A. (Bud) Sniffen, who was placed on the retired list effective March 1. Other changes in the company's personnel, according to T. J. Fitch, vice president and general manager, involves the transfer of L. H. True, Southwest Texas district superintendent, from Luling to Dallas to relieve Latimer, and the advancement of J. E. McGeath, chief gauger for East Texas, Louisiana and Arkansas, to superintendent for Southwest Texas district, with new headquarters to be located at Alice. Guy White, gauger at Rodessa, succeeds McGeath as chief gauger.

Latimer is credited with more than 21 years of continuous service with the company. He was born May 11, 1897, at Olean, N. Y., but left this pioneer oil center while a youth to attain his mark in the oil fields of Texas. Oil transportation has been Latimer's only vocation. At the age of 18 he was engaged by Magnolia Petroleum Company, pipe line division, which became Magnolia Pipe Line Company on December 15, 1925, as a helper on a tank car rack in the Thrall field, Texas. He was transferred to the pipe line gang, and later given a job as oiler at Cleveland station, located on the Corsicana-Beaumont main line system. In the fore part of 1917 he became engineer at the Addington, Okla., station, and was gauging in the Shamrock field, Oklahoma, when the United State Navy issued a call for volunteers during the World War. Released from military service in 1919, Latimer was re-employed as a gauger in the Ranger field, and was transferred to Mexia when the first Texas fault line field began flooding the crude market. He was promoted to chief gauger for Oklahoma early in 1923, but was returned to Texas within a few months to become district foreman for the Corsicana-Powell field. Upon the passing of the flush stage of this field, he was moved to Oklahoma in 1924 as pipe line scout and oil solicitor in the Wewoka-Cromwell district. He was elevated to superintendent later in the year to take charge of the construction of the company's first welded trunk line, which linked the Luling, Texas, field, with the Corsicana-Beaumont main line at Hull station. Upon the completion of this line he was placed in charge of Southwest Texas operations, with headquarters at Luling, where he remained until promoted August 15, 1934, to general superintendent for Texas, Louisiana and Arkansas, with headquarters at Dallas.

C. J. HAAS, for the past two years with Rusk Oil and Refining Company at Overton, Texas, and prior to that time with Century Refining Company at Overton, now is in charge of operations for The Adams-Louisiana Company in Illinois. He is located at Vandalia, near which city the company recently opened a new oil field.

JOSEPH M. LOW, Clarksburg agent for Hope Natural Gas Company, was elected president of the Oil and Gas Men's Association when the organization held its first dinner meeting February 19 at Clarksburg, W. Va. L. A. Lemasters presided. Clyde Pritchard, Pittsburgh and West Virginia Gas Company, was chosen vice president; Walter Rhodes, same company, secretary, and Lloyd H. Yoho, Hope Natural, treasurer. Directors are Orville T. Windon, National Supply Company; Robert Hornor, Delaware Gas Company; F. C. Devericks, Camden Oil and Gas Company, and Fred Black, South Penn Oil Company. C. P. Parsons, Duncan, Okla., addressed the 200 members attending the meeting on plugging and cementing wells. Parsons, who is vice president and general manager of Halliburton Oil Well Cementing Corporation, illustrated his talk with motion pictures taken in Oklahoma fields. Guests included J. H. Newlon, J. V. Goodman and E. H. Kreh, all of Pittsburgh, Pa., officials of the Pittsburgh and West Virginia Gas Company.

A. JACOBSON, president, Amerada Petroleum Corporation, New York, headed a party of officials of the company from Tulsa, Ft. Worth and Tyler that held a conference in Houston February 21, 22, 23, and 24. The party left Houston February 25 for their respective districts. Those that took part in the conference besides Jacobson were: A. M. Blow, vice president, Tulsa; E. S. Porter, assistant general manager, Tulsa; Dr. B. B. Weatherby, charge of the geophysical department, Tulsa; A. R. Denison, geologist, Ft. Worth; Wane Covault, production superintendent, Ft. Worth; J. F. Hosterman, assistant geologist, Ft. Worth; H. G. Officer, head of the land department, Tulsa; and S. R. Self, geologist, Tyler.

G. J. KITCHNER, for a number of years past chief accountant of the Cia. Mexicana de Petroleo "El Aguila" S. A. at Tampico, Mexico, has resigned, effective February 28. He plans to retire from active business, and will make his home in England.

K. L. SAPPINGTON, production superintendent for Shell Petroleum Corporation in the West Texas-New Mexico division, and his office staff have transferred headquarters from Wink to Mirland. Texas, where space has been obtained on the twelfth floor of the Petroleum Building.

JACK WOODWARD, graduate petroleum engineer from the University of Texas, has been employed by Magnolia Petroleum Company for duty as a petroleum engineer in the West Texas-New Mexico district, with residence at Kermit, Texas.

J. C. HUNTER, vice president of Grisham-Hunter Corporation, Abilene, Texas, was elected president of the West Central Texas Oil & Gas Association when the fifth annual session was held at Breckenridge February 20. Art J. Frazier, Abilene, and Ralph A. Fleming, Albany, were elected first and second vice presidents, respectively. G. R. Whitney was retained as secretary-treasurer, pending the selection of a successor.

F. W. FREEBORN, JR., formerly in the engineering and production department for Tide Water Associated Oil Company is now connected with Adams Louisiana Company, in charge of production. His headquarters will be in Houston.

NILS T. SELLMAN, assistant vice president, Consolidated Edison Company of New York, has been elected a member of the executive board of American Gas Association. Sellman fills a vacancy existing on the board. Sellman has had an extremely active career in the gas industry. A graduate of Stevens Institute of Technology, in 1913, with a degree in Mechanical Engineering, he entered the gas business with Consolidated Gas Company of New York that year in the utilization department as test engineer of gas appliances. After war service, he rejoined the company continuing his work in the utilization department. In October, 1921, he became service engineer for American Gas Association, later becoming assistant secretary-manager. He

devoted considerable time to the formation of the A.G.A. Testing Laboratory in Cleveland. He reentered the employ of Consolidated Gas Company of New York, as engineer of utilization in 1925. He was appointed assistant secretary in 1928 and later assistant vice-president. Sellman was the first winner of the Charles A. Munroe Award presented annually by the American Gas Association to the individual judged to have contributed most to the development of the gas industry during the year. This award was made in 1929 for his pioneering work in connection with the development of the gas refrigerator. He is now president of Regional Advertisers, Inc., sponsors of the Mystery Chef radio program. He has been a consistent and prodigious worker on American Gas Association activities, having served on many important committees and presented numerous papers at association meetings.

FRED W. NUTE has been placed in charge of the production department of Southwestern Development Syndicate, Ltd., San Antonio, Texas, which recently jointly with George B. White, opened the oil production in the Slick field of DeWitt County, Texas. Nute assembled the block for the drilling of this well.

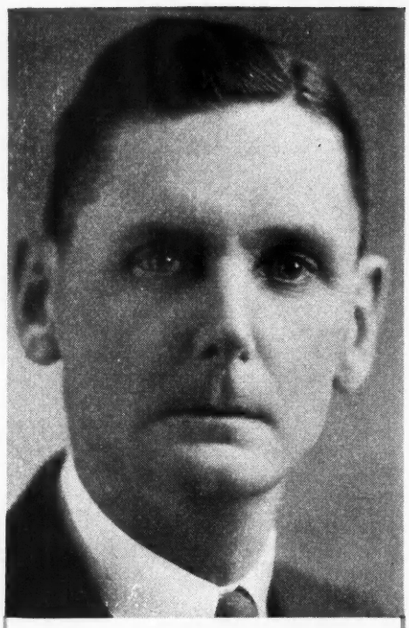
ARCH MALEY, with Humble Oil & Refining Company at Corpus Christi and recently elected vice president of the San Antonio Geological Society presided over the first regular weekly luncheon of this society in Corpus Christi February 22. There were 36 members from Corpus Christi and San Antonio present to inaugurate these meetings. Those from San Antonio included, Harry Nowlan, Darby Petroleum Corporation, president elect, Stuart Mossoum, Magnolia Petroleum Company, secretary and treasurer elect, Adolph Douvre, retiring president of the society, and Thornton Davis, district geologist of Magnolia Petroleum Company.

C. E. REISTLE, JR., Humble Oil & Rening Company, Houston, has been appointed national chairman for 1937 of the topical committee on drilling practice of the American Petroleum Institute's Division of Production. The 1937 district chairmen are: California, H. A. Godde, Signal Oil & Gas Company, Los Angeles; Eastern, Jack Gaddess, North Penn Gas Company, Port Allegany, Pa., Mid-Continent, C. E. Wright, British American Oil Producing Company, Tulsa; Rocky Mountain, W. B. Emery, The Ohio Oil Company, Casper; and Southwestern, C. E. Sutton, The Pure Oil Company, Houston. J. E. Brantley, of Drilling & Exploration Company, Los Angeles, is 1937 chairman of the special sub-committee on drilling contract form.

R. R. ROBISON, Shell Oil Company, Los Angeles, has been appointed chairman of the California district sub-committee of the American Petroleum Institute's committee on the standardization of standard rigs and derricks.

J. D. CAMEY, Carter Oil Company, Henry Boggess, Sinclair Prairie Oil Company and R. S. Huffman, Oklahoma Natural Gas Corporation, were speakers at a meeting of the Tulsa Purchasing Agents Association, February 23. The speakers presented three phases of safety in the petroleum industry.

Smith Promoted



E. D. Smith, general superintendent for Magnolia Petroleum Company in the Oklahoma district, has been transferred from Oklahoma City to Dallas headquarters to assist in the management and operation of the producing department.

AL BUCHANAN, president of the Buchanan Drilling Company, of San Antonio, Texas, is going into the aviation busines in a big way. A radio transmission and receiving outfit has been installed in his plane. Call letters for the new station were received last week.

WORKMEN'S BILL

Would make firm with 2 men entitled to benefits

Austin.—A new workmen's compensation bill has been introduced in the House by Representative J. C. McConnell.

The measure provides for several fundamental changes in the workmen's compensation law. It would reduce from 3 to 2 the minimum number of employes working for a firm to entitle that firm to take out workmen's compensation insurance.

Subscribers or employers would be personally responsible for damages in cases of accident, when and if the insurance company with whom the concern is insured proves to be insolvent. It would allow compensation amounting to 66-2/3 percent of the average weekly wages. No settlement could be made without the consent and approval of the Industrial Accident Board.

It would provide further that either the court or the Industrial Accident Board could allow a reasonable fee for attorneys if this did not exceed 33-1/3 percent.

H. PAUL GRIMM has resigned as president of the Pacific Western Oil Corporation, a position he has held for nearly five years, and will soon form a corporation to develop properties in Mid-Continent and probably in California. Grimm was vice president and general manager for Geo. F. Getty, Inc., from 1922 to 1929, and served as oil umpire for California during 1929 and 1930.

ERNST F. LENERT, of New Braunfels, Texas, has accepted a position as junior geologist with Standard Oil Company of Venezuela. He will make his headquarters at Caripito, Venezuela.

HAROLD H. MARDEN, vice president of Southwestern Development Syndicate, Limited, has returned to San Antonio from a business trip in the east.

H. DUDLEY COLES of Beaumont, Texas, formerly superintendent of drilling and production for Mexican Gulf Oil Company in Mexico, was in Tampico and Mexico City recently on a pleasure trip.

WALLACE M. FORD and N. B. Winter, head of the land and geological departments, respectively, for Atlantic Refining Company in the West Texas division, have moved headquarters from San Angelo to Midland, where office space has been taken in the Petroleum building.

W. L. NELSON, professor of petroleum refining, University of Tulsa, last week sold a patent covering a new process for decomposition of natural asphalts and tars into lubricating oils to the Gasoline Products Company. Nelson obtained a patent on the process in 1934, but states he had been working on the idea since 1928.

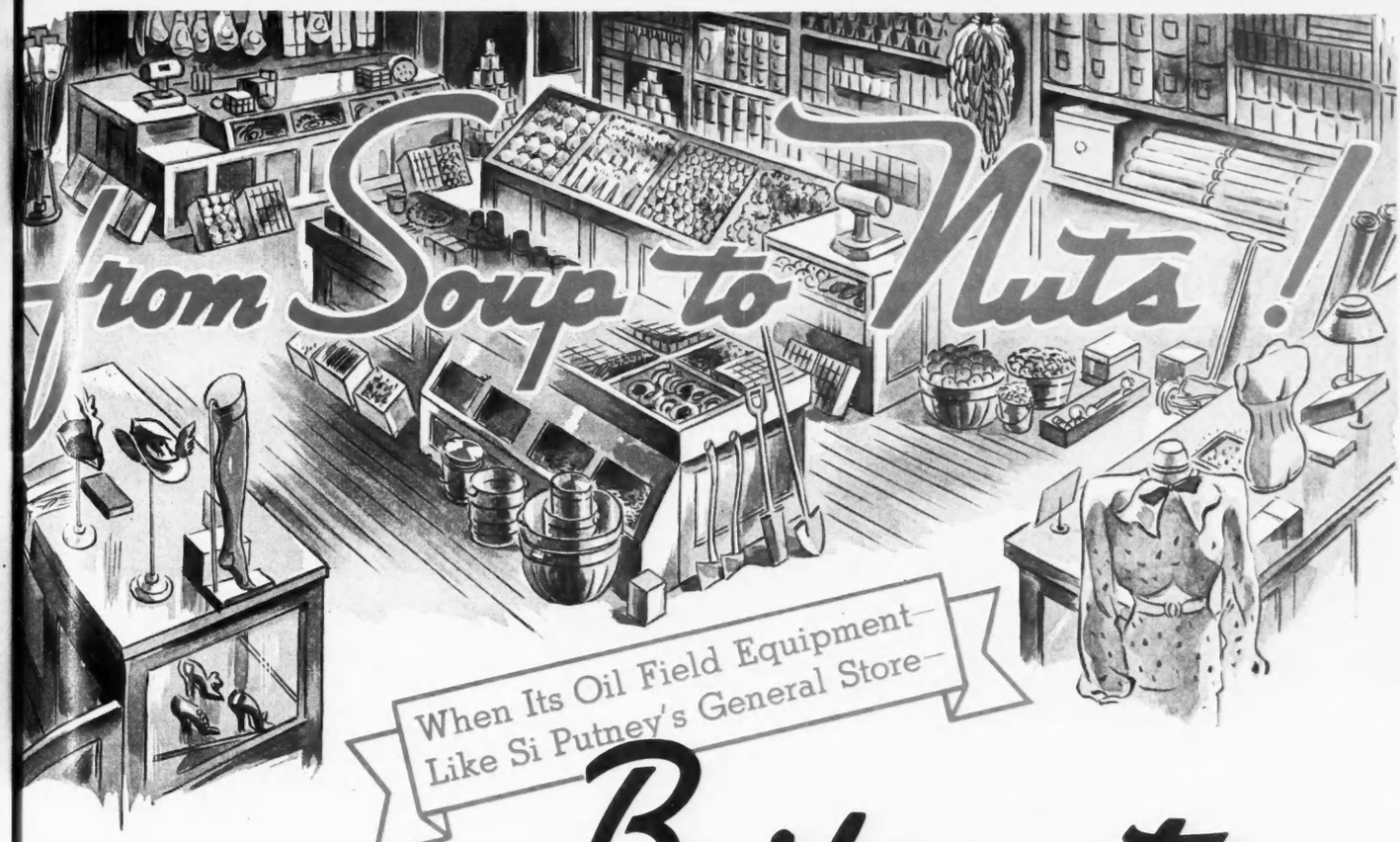
LON E. JACOBSON, representative of H. K. Stahl Company of St. Paul, Minnesota, returned to Tulsa last week after spending several weeks in the home office.

IKE W. TAYLOR, president of Taylor Drilling Company, San Antonio, Texas, is moving two drilling rigs to the recently discovered oil field in Vandalia, Illinois. Taylor is retaining his office in the Alamo National Building, San Antonio, and will continue his operations in the South Texas territory as well as his development in the Illinois area.

B. W. ARMSTRONG, 78, Houston, died February 20. A native of West Virginia, he came to Texas in 1884. At the time of his death, Armstrong was president of Bartlett Oil Company, president and treasurer of Jordan Gulley Oil Company and vice president of Goose Creek Oil Company.

SANDEL G. VIDLER, 53, geologist and mining engineer, died February 23 in a Fort Worth hospital after a brief illness. He had resided in the latter city for the past several years.

HAROLD STOKLEY, part owner of Liberty Oil Well Cementing Company, Freer, Texas, died recently from an attack of pneumonia and was buried in Corpus Christi.



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Geology of the Fitts Pool In Oklahoma

By K. R. TEIS and MAURICE TEIS
E. H. Moore, Inc., Tulsa, Oklahoma

THE accompanying discussion is Part 1 of a paper titled "Geology and Development of the Fitts Pool" read before the Spring Meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production, at Tulsa, February 25 and 26, 1937.

That part of the paper here presented includes the authors' discussion of the interesting geology of this section with its several producing strata.

Introduction and History

THE Fitts pool is located in southern Pontotoc County, Oklahoma, and covers the southeast corner of Township 2 North, Range 6 East, and most of the south half of Township 2 North, Range 7 East.

The first commercial well in the pool was a gas well drilled by W. A. Delaney, Jr., on the A. J. Harden lease in NEc SW 30-2n-7e. The producing sand was in the Atoka formation and the initial production was estimated at 30 million cubic feet per day.

This gas production, however, aroused little interest among oil men and a general doubt was felt of the possibility of oil in commercial quantities in the area. This skepticism was well grounded in view of the proximity of the area to the tightly folded and faulted Arbuckle mountains.

Apprehension regarding the country was dispelled in July, 1933, when E. H. Moore's Wirick 1, SE SE SW 29-2-7, flowed 75 barrels of oil per day from the lower Hunton lime. This well opened the Fitts pool and inaugurated a lease play and exploration that has spread to the Arkansas line.

W. A. Delaney, Jr., tapped the Bromide reservoir for the first time in his Cradduck 2, NEc 25-2-6, in June, 1934. Ten months later, with the development of the Bromide horizon progressing rapidly, E. H. Moore added new impetus by the discovery of production in the upper McLish sands in his Mitchell 1, NW SW NW 31-2-7. In July, 1935, the same interest's Atkins 3, SW NW NW 32-2-7, flowed more than 800 barrels per hour on a pressure-drill test to prove prolific production from the basal McLish or "Wilcox" sand.

Covers 5000 Acres

The Fitts pool at present covers an area of more than 5000 acres and has more than 600 wells producing oil from one or more of the eight horizons. The sands and the number of wells producing from them are listed in Table 1.

TABLE 1
Fitts Field Sands and Producnig Wells

SANDS	Number of Wells
Shallow Sands (In McAlester and Atoka formations)	17
"Cromwell" (Union Valley Sand)	2
Hunton	154
Viola	31
Viola-Bromide	217
Viola-Bromide-McLish	153
Wilcox	28
Oil Creek	1
Total	603

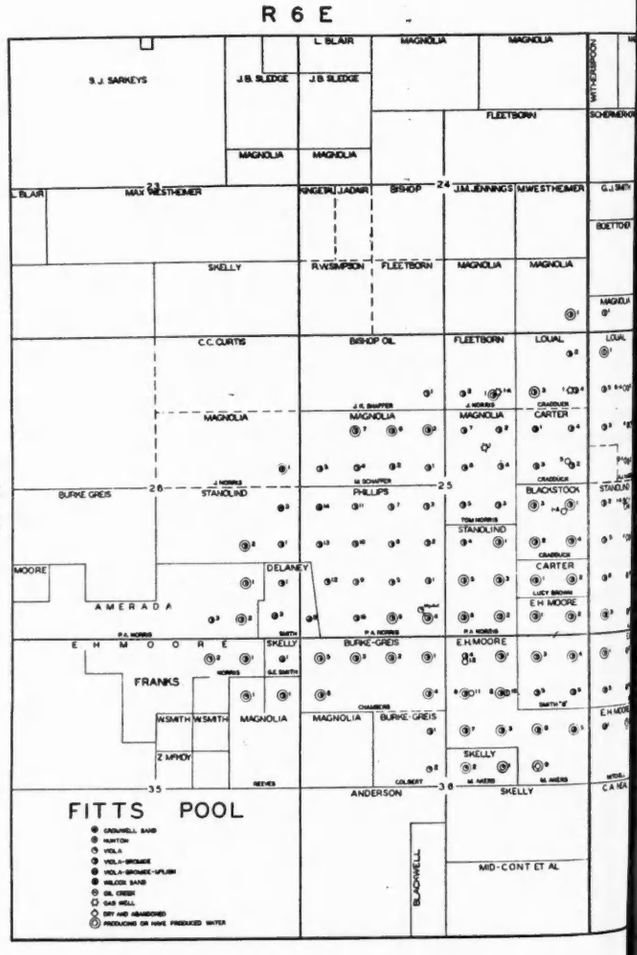
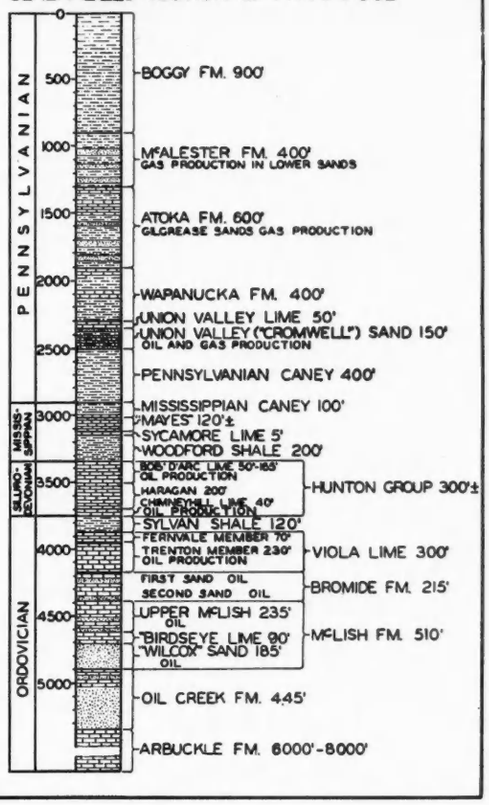


PLATE Nº II

GENERALIZED SECTION OF FITTS POOL



Stratigraphy

Surface

Shales, sandstones and sandy limestones of the Boggy formation of lower Pennsylvanian age compose the surface rocks over the Fitts pool. A microscopic examination of this formation, as provided by well cuttings, shows it to be composed of fine-textured shale, mostly gray-green in color, with some maroon and drab, broken by occasional thin beds of fine grained silty sandstones.

Subsurface

Pennsylvanian Rocks

Savanna Sandstone

This formation, if present in the Fitts pool, has never been differentiated.

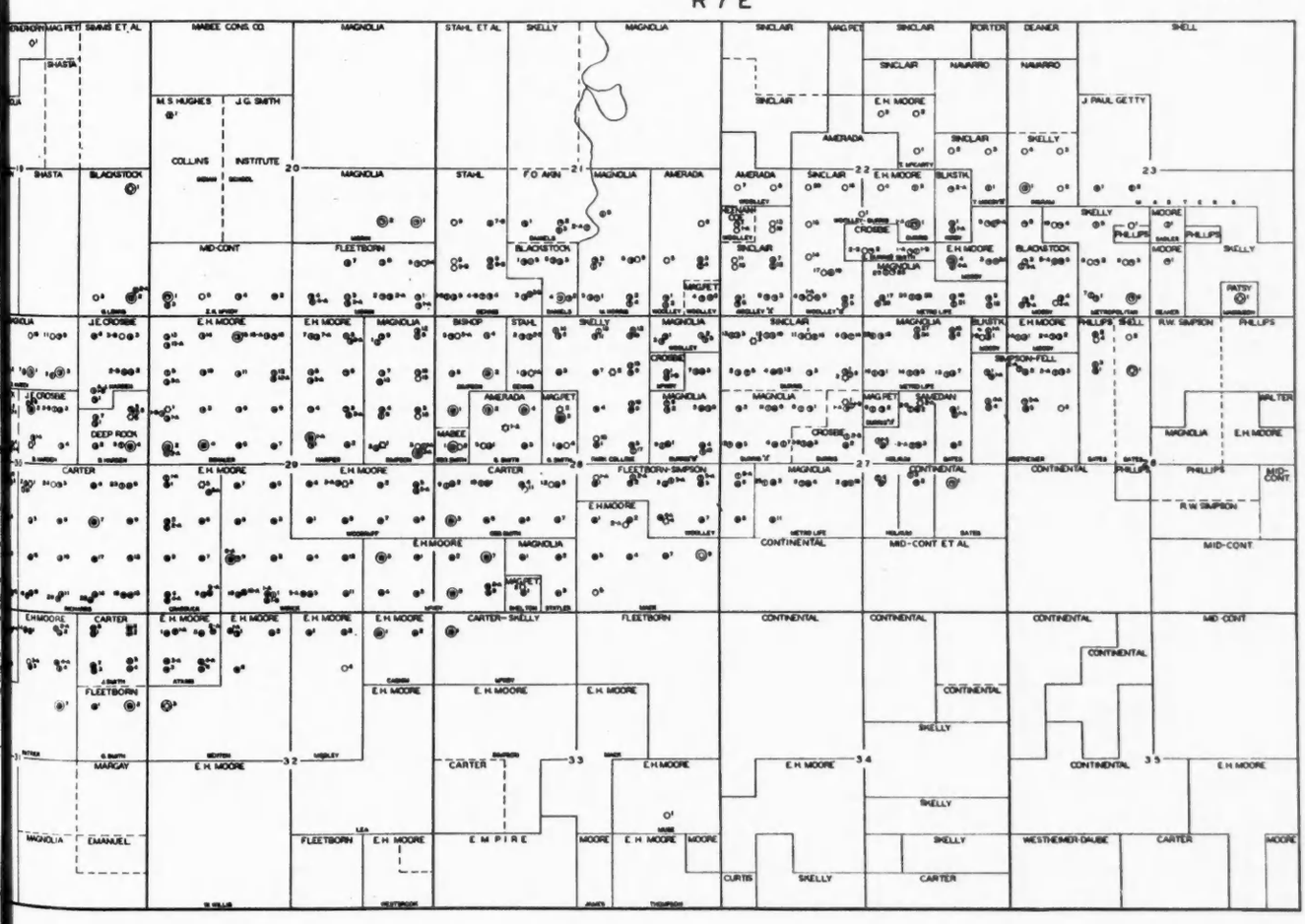
McAlester Formation

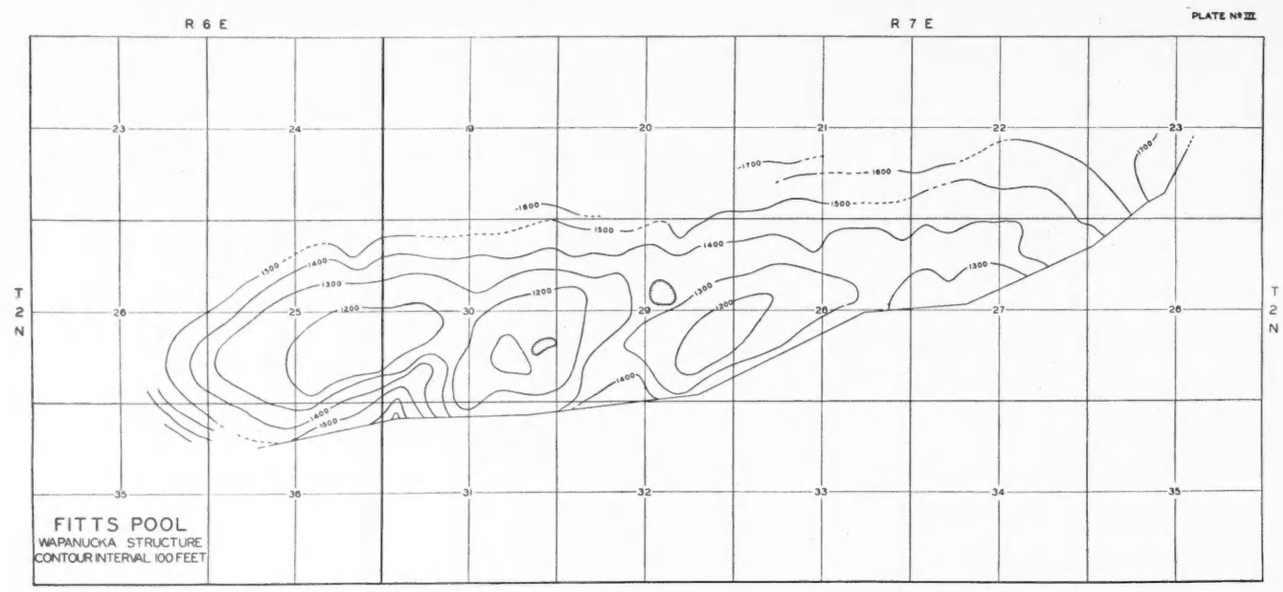
Lying apparently unconformably beneath the Boggy formation and in turn, overlying unconformably the Atoka beds, is the McAlester formation. It consists of medium to coarsely-micaceous shales, broken in the lower part by sandstones and an occasional sandy limestone bed. These sandstones are lenticular and composed of medium size angular sand grains. Some are lightly cemented with calcite, while others are very porous and produce, locally, considerable gas and small amounts of oil. This sand zone is the source of the oil production of the North Fitts pool, where it is known as the "Manahan" sand.

Hartshorne Sandstone

The Hartshorne, like the Savanna, may be repre-

PLATE Nº I





sented by one of the several sand zones in this part of the section, but it has not been differentiated.

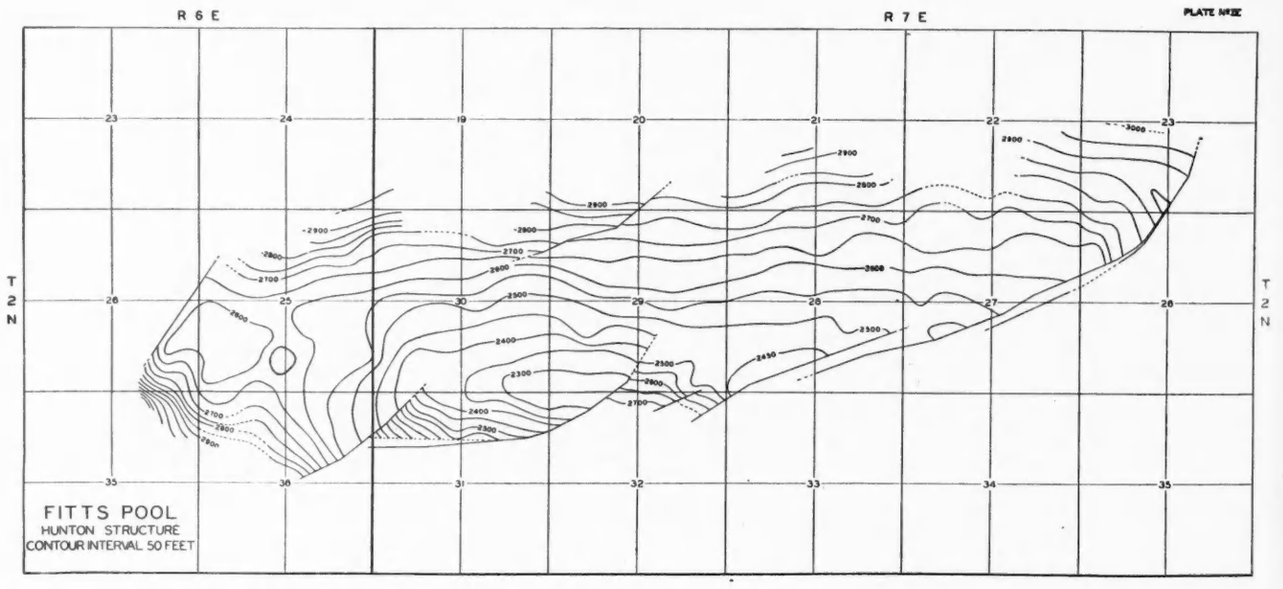
Atoka Formation

Due to the unconformity at the top of the Atoka, there has been considerable doubt as to the thickness of sediments that should be assigned to this formation. The upper part of the formation consists of dull gray calcareous shales and finely crystalline gray limestone beds. There are usually two or more zones of sponge spicules in these shales and limestones which give the rock, when seen under the microscope, a fibrous appearance. Usually, between the upper two spicule zones, where more than two zones are present, is a 10 to 20 foot bed of buff very finely crystalline limestone, the so-called "Atoka Dense." This bed is not present over the entire pool but where found it is a good marker.

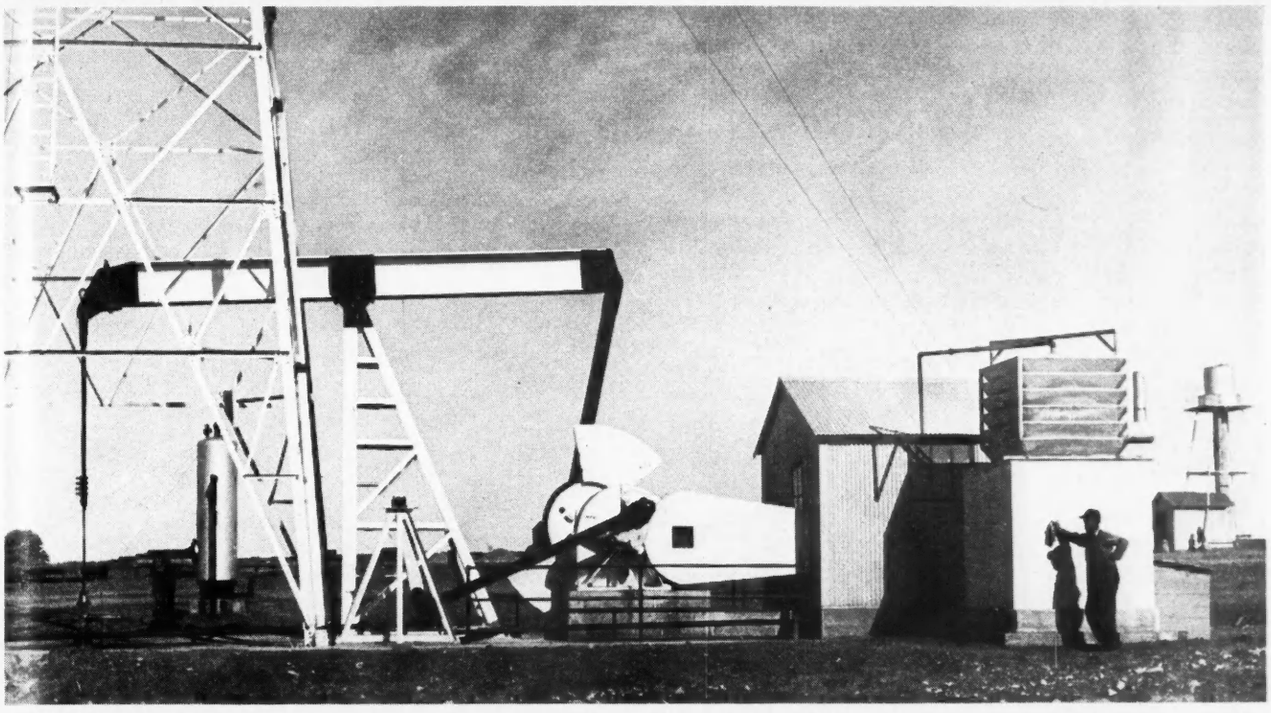
Sandstones, broken by coarsely micaceous gray shale, make up the middle and lower portion of the formation. These sandstones, medium to coarse-grained, angular and in places slightly glauconitic, vary greatly in porosity. Some are quartzitic and very hard; some tightly cemented with calcite, while others are very porous and provide an ideal reservoir. These porous beds in places over the pool carry large volumes of gas under extremely high pressure, and in some wells have produced as much as 100,000,000 cubic feet of gas per day. These sands, known in the pool as the "Gilcrease" sand, were responsible for most of the blow-outs in the early history of the pool.

Wapanucka Formation

Underlying the Atoka beds with a minor unconformity, is the Wapanucka formation. It consists, in the upper part, usually of two limestone series broken by shale beds and separated by 80 to 100 feet of shale and in the lower half of shale. The upper of these two limestone series is composed of the more massive beds and attains a thickness, off-structure of some 60 to 80 feet. In most of the wells on-



BEAM AND POST ASSEMBLIES



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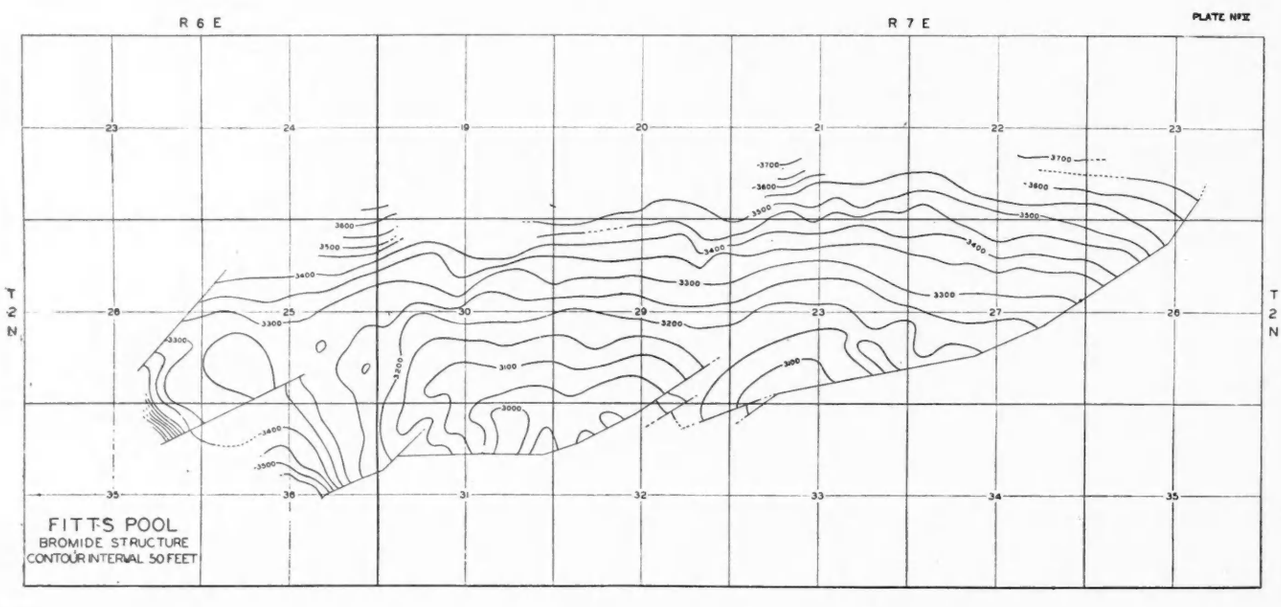
structure, however, this bed, composed of finely crystalline light gray oolitic limestone, is thinned to some few fens of feet and may be entirely removed due to post-Wapanucka erosion.

The second limestone series is more shaley than the upper and very oolitic. The shale of the Wapanucka is quite distinctive and may be readily differentiated from the other Pennsylvanian shales. It is rather light gray in color, very finely and evenly micaceous, of medium texture and has a graphitic luster. The usual thickness of the Wapanucka in the pool is 400 feet.

Union Valley Formation

Lying, with apparent conformity, beneath the Wapanucka is the Union Valley formation. The upper 50 feet is a gray, argillaceous, glauconitic limestone containing sponge spicules and becoming sandy toward the base. This limestone bears a striking similarity to the spicule limestones of the Atoka and in wells where the stratigraphic sequence has been broken by faulting differentiation is difficult.

Beneath this limestone is some 150 feet of broken



sandstone known in this area as the "Cromwell" sand. It is composed of medium- to fine-grained silty sandstone beds, dark gray to black in color. In some places it is very porous, while in others it is tightly cemented and calcareous. These sandstone beds are broken by medium-textured gray micaceous shale alternating with dark gray coarse-textured sandy shale.

Over most of the pool where the porosity of these sandstones is high and the structure favorable, they have carried encouraging shows of oil and gas. There has been some gas produced from this horizon and the first "Cromwell" oil well is now being completed on the E. H. Moore, Inc., Woodroof 5-A, NE NE SE 29-2-7. It appears to be capable of producing by natural flow, some 80-100 barrels of oil per day.

Pennsylvanian-Caney Formation

The Pennsylvanian Caney of the Fitts pool consists of some 400 feet of gray shale. The overlying shale of the Union Valley formation grades into the Pennsylvanian Caney with apparent conformity and the lithologic break that marks the contact is not discernible.

The shale of the upper part of the formation is dark gray, fissile and in some is imbedded fine sand grains which give the surface of the shale a blistered appearance when seen under the microscope. The lower portion is made up of soft gray, very thinly laminated shale, the so-called paper shale.

Mississippian Rocks
Mississippian Caney Formation

The shale of the Mississippian Caney presents a pronounced change in lithology from the shale of the Pennsylvanian Caney which overlies it with apparent conformity. The Mississippian Caney is composed of brownish-black shale with a greasy luster and a chocolate-brown streak. The cuttings are chunky and the fracture uneven. There is usually considerable glauconite in the shale near the contact with the Pennsylvanian Caney and in the upper part ironstone or "siderite" concretions. This formation, usually about 100 feet thick, provides a good marker over the entire pool.

Mayes Formation

The lithologic change from the Mississippi Caney shale to the brown, micaceous and calcareous grit that is known as "Mayes" limestone is gradational and just how much of the sediment should be assigned to the Mississippi Caney and how much to the "Mayes" has been the subject of futile controversy. The "Mayes" contains considerable glauconite near the base.

Sycamore Formation

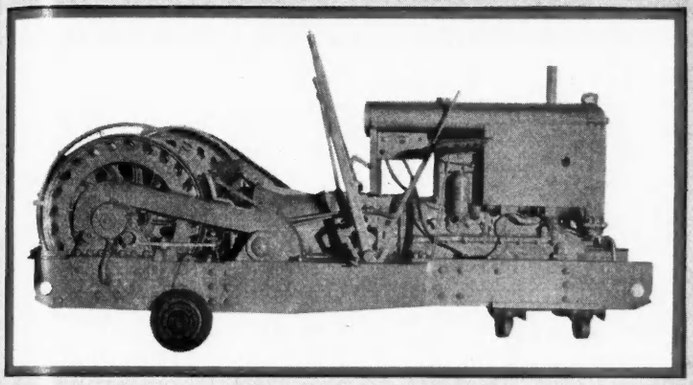
At the base of the "Mayes" and lying conformably on the Woodford is the Sycamore or Weldon limestone. It is not present in all the wells in the pool and probably does not attain a thickness in excess of 10 feet anywhere in this area. Lithologically, the limestone is hard, finely-crystalline and light bluish-gray in color.

Woodford Formation

The Woodford consists entirely of dark brown shale, rather hard and with an uneven fracture. At

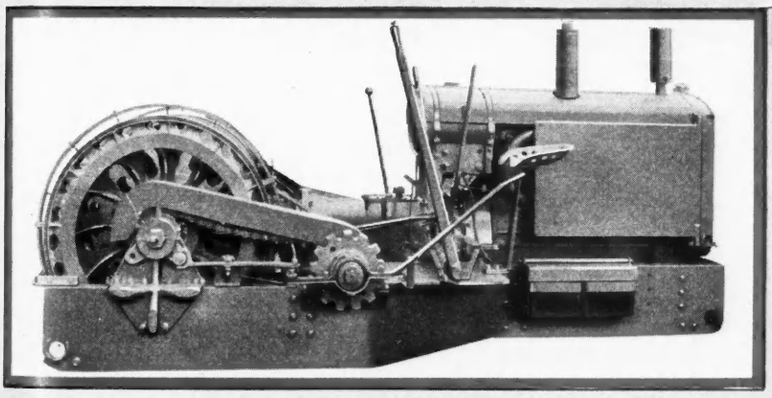
The BIG Three of SKID WINCHES

ALLIS-CHALMERS UM SKID WINCH



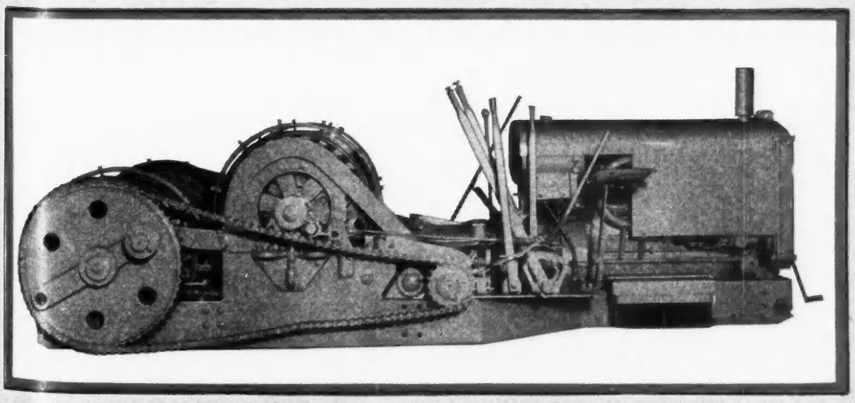
Available in two sizes with line capacity of 14,000′ or 10,500′ of ½″ line. It can easily pull wells tubed with 5,000′ of 2½″. As it is very compact and light, for a machine of its capacity, it can easily be hauled on a 1½ ton truck. Four cylinders, 4½″ bore with 5″ stroke. Maximum line pull 30,250 lbs. Eight line speeds from 49′ to 1,133′ p.m.

ALLIS-CHALMERS UE SKID WINCH



Available in three sizes with line capacities of, 20,700′, 14,000′ and 10,500′ of ½″ line. It is especially recommended for deep wells. Can be mounted on a medium size, long wheel base truck. Four cylinders, 5″ bore with 6½″ stroke. Maximum line pull 54,032 lbs. Eight line speeds from 49′ to 1,133′ p.m.

A-C DOUBLE DRUM SKID WINCH



Can be powered with either the Allis-Chalmers UM or UE engines. Three sizes of front drums are available, holding 20,700′, 14,000′ and 10,500′ of ½″ line. Two sizes of rear drums are available, holding 10,500′ and 8,435′ of ½″ line. So designed that operator has unobstructed view of both drums, well, crew and all equipment at all times.

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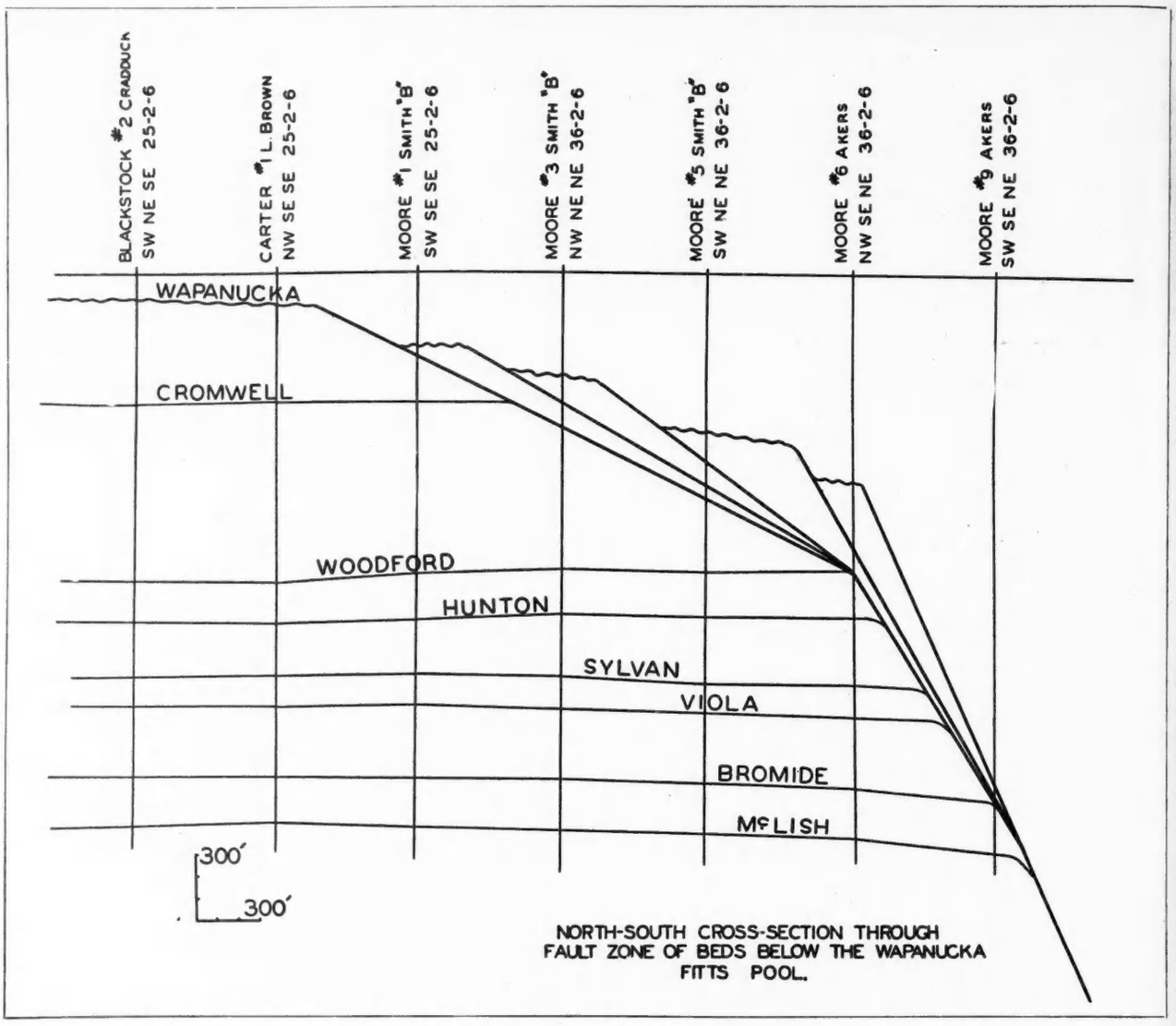


NORTH-SOUTH CROSS-SECTION THROUGH FAULT ZONE OF BEDS BELOW THE WAPANUCKA FITTS POOL.

the top and in places throughout the entire thickness of the bed is considerable dark brown chert. The distinctive and diagnostic Sporangites common to this formation elsewhere is present here. The Woodford has a usual thickness of 200 feet in the pool.

Siluro-Devonian Rocks

Hunton Group

The Hunton limestone of the Fitts pool can be readily differentiated into three distinct formations—the Bois d'Arc at the top, the Haragan as the middle formation, and the Chimneyhill at the base.

The Bois d'Arc formation is composed of coarsely-crystalline pale greenish limestone. The green coloration is due to the pressure of glauconite which is diffused throughout the limestone. Milk-white translucent flint is present in the upper part of the formation, attaining considerable thickness on the east side of the pool.

The thickness of the Bois d'Arc varies from about 50 feet, in the western and central part of the pool, to a maximum of 165 feet on the east edge. This thinning is no doubt due to erosion and is evidence of a minor uplift accompanied by an interval of erosion following the deposition of the Hunton.

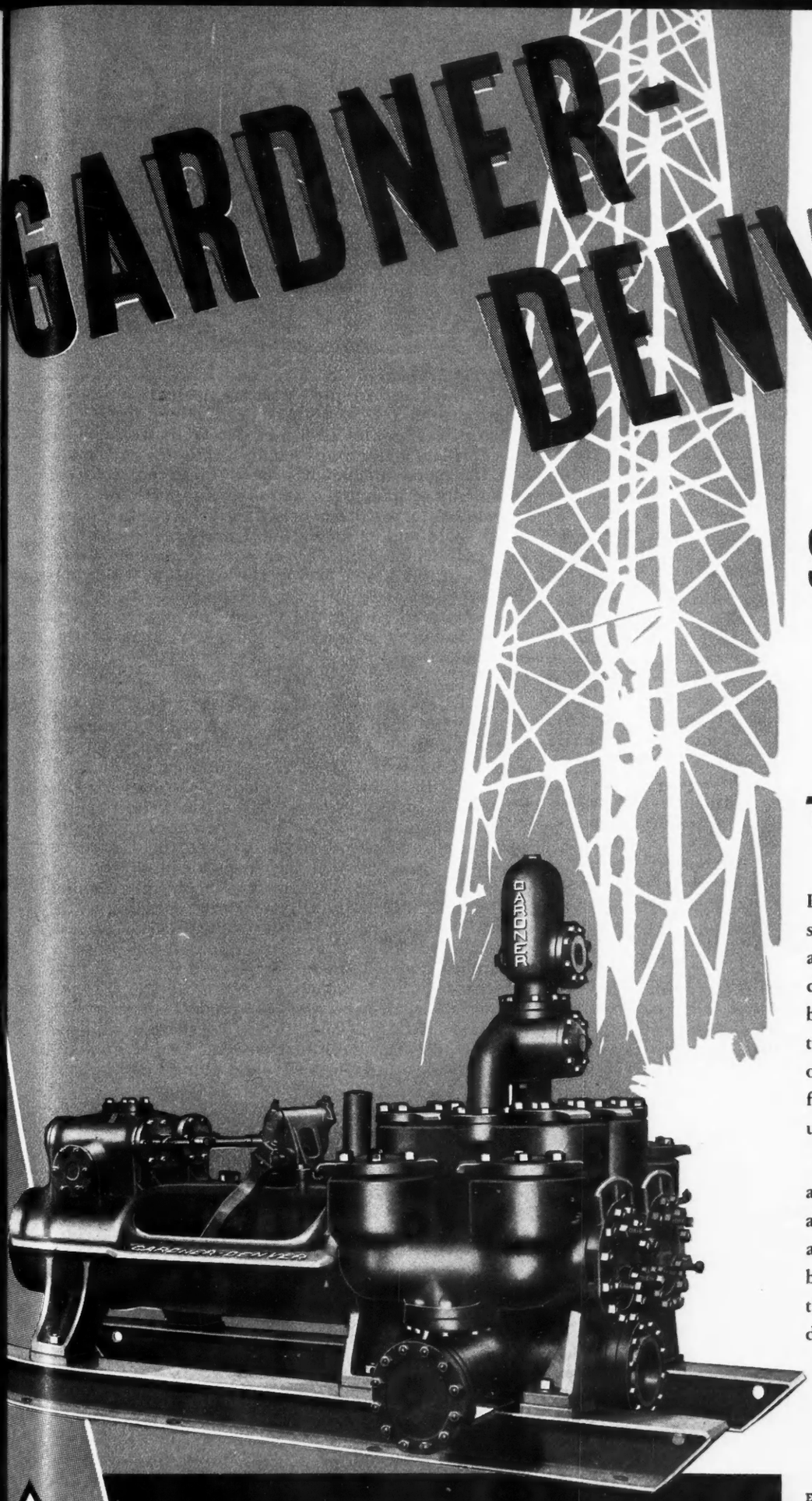
In most of the wells in the pool there is a show of oil or gas in the top of the Bois d'Arc limestone, while in the east part of the pool and especially on the northeast flank of the structure, the limestone is saturated throughout most of its thickness. This bed is the source of the prolific production from the Hunton in that part of the pool.

The Haragan (strictly speaking, the Haragan and Henryhouse undifferentiated) is composed of gray finely-crystalline silty limestone. It is cherty in places—a bluish-white chert—and is barren of oil or gas throughout its thickness in the Fitts pool.

The Chimneyhill or lower formation of the Hunton consists of three distinct members—a pink crinoidal bed, usually about 15 feet thick at the top, a middle member of snow-white glauconitic limestone 20 feet thick, and a basal oolitic bed, some 7 feet thick. This oolitic limestone shows oil staining over the entire pool and is a producing horizon in many wells.

Sylvan Shale

The contact between the Sylvan and the overlying Hunton is one of conformity. Lithologically the Sylvan is a fine texture shale, gray-green, except near the base, where it grades into a brown color.



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Most of the wells drilled in the pool have about 120 feet of Sylvan.

Viola Limestone

The Viola underlies the Sylvan conformably and on lithologic differences is divided into two members, the Fernvale above and the Trenton below.

The Fernvale member of the Viola consists of usually about 70 feet of mottled gray-white coarsely crystalline argillaceaus limestone. It shows only a little staining of oil in most of the wells in the pool. Near the base, where this member overlies the Trenton, it becomes dolomitic and sandy.

The Trenton member consists mainly of finely-crystalline, light brown limestone containing light brown chert, but in places throughout its normal thickness of 230 feet there are coarsely-crystalline, dolomitic and fossiliferous zones. The brown color is no doubt due to oil showing and in some parts of the pool great thicknesses of this member are saturated with oil. At the base is a 10 to 20-foot bed of very finely crystalline chocolate-brown limestone containing dark brown chert.

Bromide Formation

There is no apparent unconformity between the Viola and Bromide formations. The Bromide is composed chiefly of limestone, but has two well developed and distinct sandy zones. The first of these sand zones occurs about 115 feet below the top of the formation and is some 30 to 40 feet thick; the sand usually occupies the lower 30 feet of the formation. The upper Bromide is mainly gray, dense limestone with some dolomite, grading into coarsely-crystalline limestone above the first sand zone. The sandy zones consist of coarse-grained well rounded sand cemented with dolomite and calcite. Between the sands is a section of finely crystalline dolomitic limestone. Beds of fine texture green shale are intercalated with the sandstones in the lower 20 feet of the formation. Production from the Bromide in the Fitts pool is chiefly from the sandy zones. The normal thickness of the formation is 215 feet.

McLish Formation

There is no evidence of an unconformity between the Bromide and the underlying McLish formation in the Fitts pool. The McLish is composed of gray, dense limestones; pale green and gray dolomite; sandy dolomite and some green shale. Lensing and inter-fingering of these different beds in the upper half of the formation is the rule.

To generalize, the stratigraphy of the McLish consists, from the top downward, of a dense limestone series; a sandy dolomite zone; another dense limestone series; another sandy dolomite zone; a massive dense limestone bed; and a dolomitic sand at the base. The normal thickness of the formation is 510 feet.

The interval from the top of the McLish to the massive dense limstone, the so-called Birdseye dense, is usually about 235 feet. This limestone bed measures about 90 feet in most of the wells, while the sand beneath it, known as the "Wilcox", is about 185 feet thick. This sandstone is composed of fine sand cemented with gray-green dolomite. It is very porous and an excellent oil reservoir. Most of the sandy zones of the upper McLish carry oil but a few are barren.

Oil Creek Formation

Only one well in the Fitts pool has drilled a full section from the "Wilcox" sand to the Arbuckle. This well, the E. H. Moore, Inc., Benton 1, NW NE NW 32-2-7, had 445 feet of section which has been assigned to the Oil Creek formation. This section is composed, in the upper 125 feet, of mottled gray and white crystalline limestone beds alternating with hard gray micro-crystalline magnesian limestone green shale, and dolomitic sandstone. The lower 320 feet is composed of fine dolomitic sand. In Benton 1 salt water was found in the upper sands and sulphurous water in the basal sand. There is, however, one well near the fault zone in the pool producing from one of the upper Oil Creek sands.

Arbuckle Formation

The thickness of the Arbuckle formation in the mountains to the south has been found to be between 6000 feet and 8000 feet. No wells in the pool have drilled more than 300 feet into the Arbuckle but the portion that has been observed consists principally of pale green and off-white finely-crystalline dolomite, with some light gray-green fine textured shale and in zones, light amber finely oolitic and milk-white flint. There are occasional sandy streaks in this upper part of the Arbuckle which for the most part are quartzitic. Small shows of oil have been observed in the cores and cuttings from the Arbuckle but it is considered too low, structurally, to produce.

Structure

Surface

The regional surface structure was first mapped by Geo. D. Morgan in 1923, and has been checked by several others since that time. This map was published along with a report on the area in Bulletin No. 2 of the Bureau of Geology, "Geology of the Stonewall Quadrangle, Oklahoma," in 1924.

The Fitts pool lies about in the center of the Frank Graben, a down-throw block between the Lawrence uplift on the north and the Arbuckle uplift on the south. The term graben is rather incorrectly applied to the area, since the strict meaning of the word is a fault trough, long and narrow, with more or less parallel sides. This area is triangular in shape with the limiting faults converging toward the west.

Regarding the surface structure of the Franks graben, Morgan wrote, "The general structure of the strata within it consists of two sharp drag synclines, along the limiting east-west faults, and between these, of a broad westward plunging anticlinal fold."

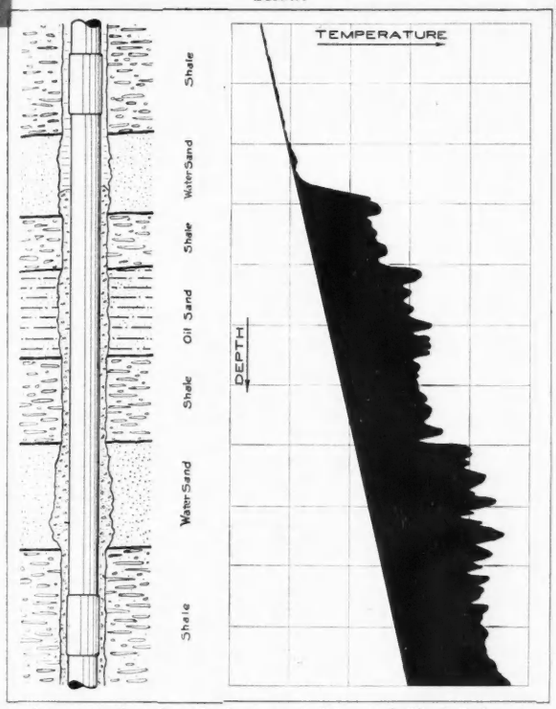
Subsurface

The subsurface structure of the Fitts pool is an east-west trending anticline limited on all but the north side by normal faults. (See structure contour maps). The fault on the west side strikes N. 30° E. and shades to the west. The fault bounding the pool on the south is not a single fault but rather a zone of step-faulting. This is especially true of the structure of the upper beds. Movement in the lower, massive limestone beds in places was along single fracture plane, while in the over-lying less competent beds it was along several parallel planes (See cross-section). The low angle step-faults of the Wapanucka and Younger strata converge to form a high-angle single fault in the lower beds.

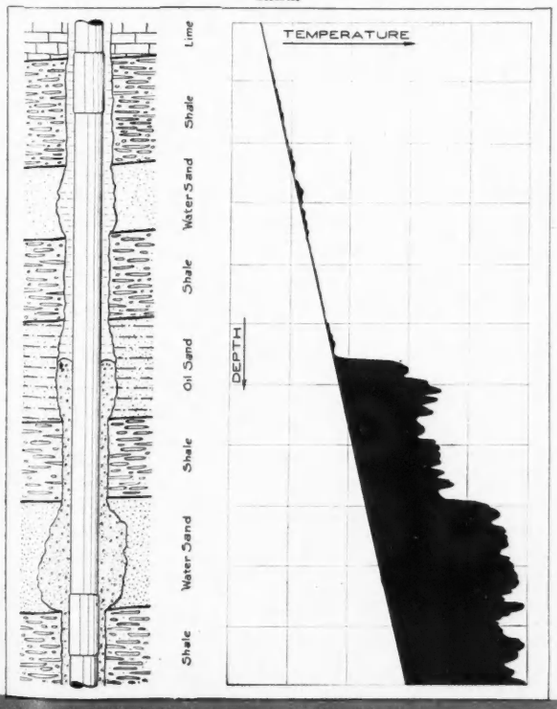
Branching off this major fault zone, striking northeast, are cross-faults which die out northeastward. The sands on the down-throw side of these cross-faults are not as productive as those on the upthrow, and wells close to the fault on both sides show a decrease in the porosity of the sands.

Be sure of your cement job *with a* TEMPERATURE SURVEY

An example of a good cement job as indicated by a Temperature Survey. Note that the oil sand is effectively protected from the water sands located above and below.



An example of a bad cement job as indicated by a Schlumberger Temperature Survey. In this instance, cavities absorbed a large part of the cement, preventing sealing off the top water sand and the top of the oil sand.



Because cement produces a considerable quantity of heat while setting, the thermometric method is most suitable for the location of the top of the cement column.

A Temperature Survey, made immediately after the cement job is completed, reveals the exact location of the top of the cement and permits the operator to determine whether or not an oil sand has been safely sealed.

While the operator may calculate roughly, from the size of the casing and hole, the quantity of cement necessary for his cement job, it is impossible to do so with any degree of accuracy because the height of the cement column depends on the presence of cavities, absorbing formations, and channeling.

U. S. Patent No. 2,050,128

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Portable Rigs for Shallow Drilling

Griggs Studio

D. M. AULD

VARIOUS types of portable drilling rigs are discussed with special attention drawn to the feature of portability and size for certain duties up to 2000 feet. Core drilling equipment is also considered in connection with secondary recovery development work. Much of this paper is taken up with a discussion of a drilling unit devised to drill shallow wells with rotary tools.

This paper was presented before the Spring Meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production, February 25, 1937, at Tulsa.

By D. M. AULD
Phillips Petroleum Company

THE title of this paper is very broad in scope and might have read simply "Rigs for Shallow Drilling," since equipment for the purpose stated must be of economic necessity portable. Furthermore any discussion of drilling equipment must take into account the type of section to be drilled, and be confined to rather definite depth limitations. However, in order to avoid too much generalization in treatment, we believe that the subject may be confined to consideration of depths of 2000 feet, with a geologic section such as encountered in Northeast Oklahoma or Southeast Kansas. In this area well depths in general will vary from less than 400 feet for a Bartlesville sand well with less than 30 feet of limestone in the entire section to 2000 feet for a Siliceous lime well with approximately 500 feet of limestone to be drilled. With the advent of intensive repressuring and water flooding have come new demands on drilling equipment which we believe are logically entitled to consideration within the scope of this subject.

Probably the first type of portable rig which should be considered is the wire line spudder since they have proved capable of doing a good job of drilling in this heavy lime section area, combining a good rate of drilling progress with fair degree of portability and a minimum of rigging up expense.

Portability of most present day spudders cannot be increased appreciably without placing the equipment on a truck. This is obviously impractical with any spudder except the lightest types made for depths of 500 feet or less. There is now a tendency to mount light equipment on motor trucks but such equipment is almost exclusively for cleaning out, reconditioning, or completing after rotary drilling. The investment in a truck large enough to permanently mount a spudder of conventional design would be prohibitive from an economic viewpoint, and such mounting would provide little if any advantage over a steel wheel mounting.

The type and size of spudder to be selected for drilling will be governed by a number of factors; for instance; will it be used on concentrated location drilling without long moves? Will it be confined to definite depth limits? What size hole is to be drilled? What kind of section is to be penetrated? How much pipe will be set? Will it be used for reconditioning work later? And, what kind of fuel is available?

As an example, suppose that spudders are needed to drill up a water flood development where spacing is to be from 440 feet to 330 feet between locations. The depth is 600 feet of which about 80 feet is limestone, 8-inch surface casing and 6-inch sand string pipe to be set. Enough machines are to be used to give each machine about 20 wells to drill in something over three months. There is the possibility that some of these machines will be used for reconditioning work after the drilling program is completed. Fuel available is either gasoline, kerosene or distillate. In addition there is the liklihood of these machines being used to drill 1200 foot wells in the same field. Since the cost of these machines cannot be written off on the 600 foot drilling, there being too small an amount of it in sight, it would appear logical to select the next largest size spudder rated by the manufacturers for from 1500 to 2250 foot drilling. For this type of concentrated drilling the mounting on four steel wheels would be most economical, since tractors and trucks will be available for making the short moves and self propelling equipment would not be necessary.

The engine, either gasoline or Diesel, is mounted on the sills of the spudder, and is connected with a V-belt drive. This for the purpose of eliminating the separate moving and aligning of a skid mounted power unit. Calf wheels should be provided in this case because of the versatile duty demanded of the machine. The stroke at the hole should be about 40 to 48 inches and the speed about 45 strokes per minute swinging about 2500 pounds of tools. Such operations

should give satisfactory drilling progress. The sand reel should have a line speed of about 700 to 1000 feet per minute. The bull wheel or tool drum should have spooling capacity on the storage side of the divider equal to the maximum depth for which equipment will be used. The mast for this machine should be 45 feet high to the drilling sheave and about 40 feet to the casing line sheave. This mast is slightly longer than regularly furnished in spudders of this class; the added height being suggested to allow the running of maximum 30 foot lengths of pipe; a practice which is not being followed at this time but one which may come into use as second hand casing becomes scarcer for equipping secondary recovery projects.

The power unit for this machine should develop at least 40 net brake horsepower when running at pulling out speed which should hoist the tools at an average rate of about 200 feet per minute. When selecting the power unit the nominal horsepower ratings should be considered cautiously, and proper deductions should be made for accessories, type of fuel, etc., when these items were not taken into account in rating the engine. The torque curve maximum should be near or slightly behind the pulling out speed of the engine. Finally in regard to power, we all know that there is no economy in being niggardly in the application of power units, and that a few extra dollars for reserve power usually nets good returns. Also, it should be remembered that the machine under discussion is for maximum depths of 1200 feet and for swinging 2500 foot pounds of tools. Any appreciable change in depth or weight would require entirely new consideration.

Auxiliary Equipment

As auxiliary equipment for this type of machine, we suggest a tool house mounted on four wheels. The size will depend on individual preference, but 6 feet by 8 feet by 5 feet high above the sills of the trailer mounting, we think, should be sufficient. End and roof flaps hinged to the tool house can be swung into position and bolted to form a half derrick house in the form of a lean-to which will be about 7 feet high on the side toward the hole. This arrangement should provide shelter as well as storage space for small tools, parts, and supplies. The working floor can be made in two sections and skidded over the ground on many short moves. The generator and blower can be mounted as a separate skid unit or installed in the tool house, the latter position being preferable providing a small unit is used.

In the foregoing remarks nothing especially new or original with the writer has been presented, the intention being principally to emphasize the importance of selecting the right type machine and power unit for a given job of drilling. Special emphasis should also be given to the desirability of having all of the equipment except the heavy tools and floor installed on two portable units.

In general, wire line spudders are in a satisfactory state of development, and there are a large number of various size units from which to select. New improvements of a minor nature are constantly being made by the manufacturers, a good many of such improvements being the selection of better materials for construction. No radical changes in the principles of operation of such equipment are likely to be made since the methods of cable tool drilling are well understood by both the manufacturers and users, and are rather definitely limited to the fundamental principles of churning the formations into much which can be bailed out of the hole. The fine points of operating any cable tool drill so as to obtain maximum drilling progress can be learned only by long experience.

Many systems of drilling have been proposed as is evidenced by the large number of patents which have been granted. Some of these may have merit, but a tremendous amount of research and development cost must be incurred before they can be put into practice. At this time we have the choice of cable tools, rotary tools or a combination of the two. It has been generally believed and almost universally conceded by experienced drillers that only cable tools can be employed economically in drilling the shallow wells of Northeast Oklahoma. Undoubtedly this has been true and may still be true, but nevertheless, there are those who now believe that the rotary system of drilling may be applicable in this area providing light weight equipment of special design is used.

The drilling of test holes with small core drills has suggested to some that a larger rotary drill with the hydraulic feed feature of the core drill may be used successfully for drilling gas or water imput holes as well as oil wells. Such drilling has been done with large capacity core drills with fair results as to progress, but it is the writer's opinion that in order to compete with cable tools the equipment used for the rotary drilling must be changed somewhat in the direction of conventional rotary practice at the same time retaining the necessary features of the core drill. If rotary equipment can be built to do the drilling to the top of the sand at competitive cost with cable tools, the advantages of the rotary are obviously apparent from that point on to the completion of the hole. The sand may be cored economically thus allowing the intelligent selection of casing or packer point and the total depth for completion. The walls of the well bore may be reamed or scraped, circulating the cuttings out with clear water, or possibly a combination of air and water. The sand might even be reamed selectively taking into account variations in permeability. The hole may be cleaned out after shot probably just as effectively as by the use of cable tools. The casing and tubing may be run. In other words, the well may be entirely completed with the use of one machine.

If, in developing a project for water flooding or intensive repressuring with gas or air, the operator considers core information on each well indispensable to proper completion of the wells, then the light rotary drill is given a considerable advantage over cable tools. In other words, the drilling to the top of the sand with cable tools and the subsequent coring of the sand with portable core drills will be a rather costly operation due to the delays and moving expense. The portable rotary drill on the other hand will be able to drill the well, core the sand, and complete the well in one fairly continuous operation. It is true, of course, that cable tool cores may be taken. However, the cost of such cores is in general just as great as the rotary core and not as satisfactory for testing.

If rotary drilling is ever to be successful in the territory under discussion, means must be provided for applying weight to the bit while drilling lime near the surface, and adequate circulation must be provided. In most of the past attempts at drilling input or production wells with core drilling equipment both weight and circulation, particularly the

latter have been lacking. Furthermore, compactness and portability must be achieved if drilling is to be done economically under conditions where moving and rigging up is necessary every three to ten days. The assembling of the entire equipment including the pumps and rotary table on one portable unit such as the typical core drill is one possibility. In this set up, a truck mounting might be most economical, using the truck motor for driving the pumps, with an auxiliary engine for the draw works, and rotary or vice versa. Another combination might be the draw works, rotary and mast mounted on a comparatively light truck powered from the truck motor with the pumps and pump power unit on a steel wheel or pneumatic tire four wheel trailer. Still another set up for concentrated drilling might consist of units as last outlined except that each unit would be assembled on a four wheel trailer. The selection of any combination of mounting will depend on the kind of drilling to be done and will be determined largely by the same factors taken into account in selecting portable cable tool equipment.

Weight and Circulation

In determining the weight to be applied and the amount of circulation, the size hole to be drilled, the formation, and the size drill pipe to be used, are all important factors. The rock bit manufacturers recommendations as to weight and circulation should be given careful consideration. Since several portable or semi-portable rotary rigs are in successful operation on heavier work we suggest that the amount of circulation necessary be determined by providing at least as much vertical velocity of mud in the annular space between the drill pipe and the wall of the hole as has been found to be satisfactory on larger rigs. Using these data as a basis, the circulation should be about 225 gallons per minute when using 2⅞-inch O.D. drill pipe and a 5⅞-inch bit. Pressures are not expected to exceed 400 pounds. In order to reduce pressures and increase the flushing action at the bit, drill pipe and tool joints having an opening of at least 1½-inch appear preferable over the external flush joint core drill rod which in the same O.D. size has an opening through the joint of about 1 1/16-inch.

The use of drill pipe and tool joints has other advantages in that elevators instead of hoisting plugs are used to handle the pipe and the tool joints will have a stabilizing effect on the drill pipe column especially when compressive force is applied by the hydraulic feed mechanism. The downward force to be applied to the bit by the hydraulic feed will depend on the depth and the degree of hardness of the formation, maximum demand being in cases where hard limestone is encountered on the surface. This condition will occur very frequently in Northeast Oklahoma and especially so in the Nowata Field. The Hydraulic feed system therefore should be designed so as to exert a total force of at least 8000 pounds, which would be slightly over 1000 pounds per inch of rock bit diameter when using a 7½-inch bit for setting surface pipe. The length of travel of the hydraulic feed will be a matter of individual preference and manufacturers designs. However, if manually operated chucks are to be used in gripping the kelly, the feed should be at least 30 inches long so as to eliminate frequency of chucking and resulting idle time. A kelly with a bore large enough to pass the drill pipe through it will offer some advantages over having to lift the drill string off bottom and retract the rotary table when adding a joint of pipe.

The mast for such a rig should be a part of the unit and should be arranged in such a manner as to permit raising by power either through a hoisting line or hydraulic cylinders. The height and construction should allow handling the pipe in doubles and standing same in the mast. If drill pipe in fifteen foot lengths is used the height of the mast may be about 42 feet. Sufficient strength should be provided to handle 2000 feet of 20-pound pipe or 40,000 pounds. Drilling line, sand line, and cat line sheaves should be installed in the mast.

The draw works for this rig should have a capacity of about 250 feet of ⅞-inch and should be designed for single line pull of about 6000 pounds with an average line speed of 250 feet per minute. These conditions should be met with the draw works engine running near its maximum governed speed and with the transmission in high gear. An engine with a rating of about 65 horsepower will be required.

This machine should be equipped with a sand reel having a spooling capacity of about 2500 feet of ½-inch line and an average speed of about 800 feet per minute.

As to the type drives to be used on the drums, whether the final drive is to be jaw clutch or friction type will depend on individual preference and the kinds of available equipment. For the sand reel drive, however, the writer sees no objection to the friction wheel arrangement which is still used to some extent on spudders.

The rotary may be driven through a splined shaft on the center line of the unit, in which case the draw works must be driven through a right angle take off from the same shaft or a chain drive may be used from the jack shaft of the draw works. In the latter case the chain will be allowed to go slack when the rotary is retracted from over the hole. In either case the engine transmission will be available to vary speed of rotation provided it is desired to go beyond the range of speed permissible through throttling the engine. For rotary speeds we suggest that the table turn at 200 revolutions per minute, at the maximum governed speed of the engine in high gear. Almost any range of speed is obtainable below this maximum by throttling or shifting gears or both.

The construction of such a rig as has been very meagerly described is largely a matter of assembling equipment now designed and in use. There are several small draw works of the well servicing winch type which should be satisfactory for this type of rig. The enclosed rotary and hydraulic feed system is more limited in availability but there are several of them on the market. Mud pump or pumps may be had in a fair range of sizes for this work. For this particular rig two 4½-inch by 6-inch power pumps or their equivalent in capacity would be required. The mast, the assembling and the smaller pieces of accessory equipment will have to be determined after the major items are decided on and the type of mounting selected.

In conclusion, we must reiterate that cable tools do a satisfactory job of drilling in the area we have considered, and are the accepted means and practice today. There has been, however, just enough work done with core drills in this territory recently to suggest that some adaptation of the rotary system may be practical. Only experience will decide.

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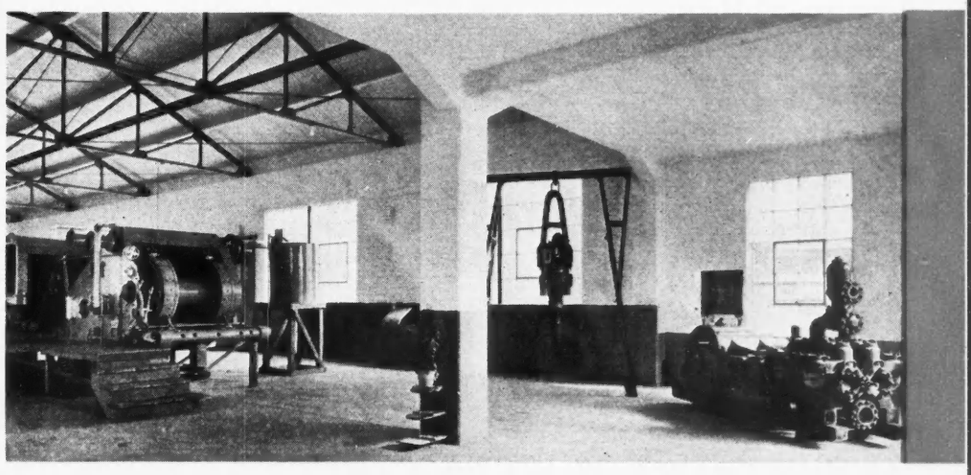

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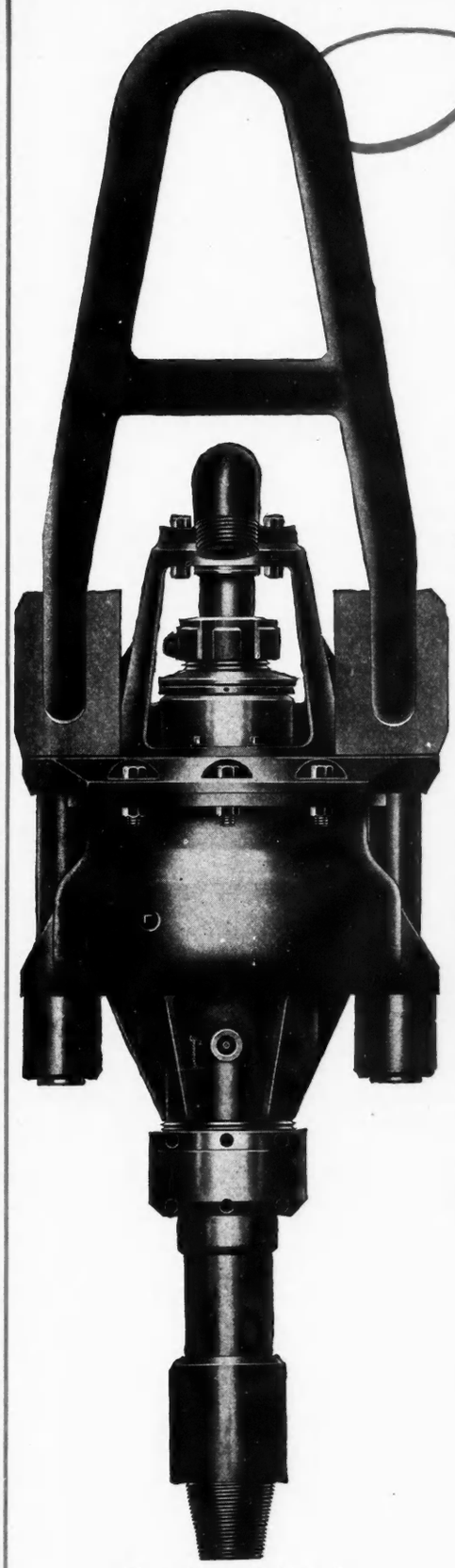

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OF OIL FIELD AND PIPE LINE EQUIPMENT

By H. M. STALCUP
Vice President Skelly
Oil Company

Before the Spring Meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production, February 25, 1937, at Tulsa.

Resume of the Panhandle Gas Problem

ALONG the north flank of a covered, buried granite ridge crossing the counties of Wheeler, Gray, Carson, Hutchinson, Potter and Moore, and extending into portions of Hartley and Oldham, lies the great Panhandle Oil and Gas Field of Texas. This reservoir is approximately 125 miles in length and has an average width of 20 miles, attaining at one point a width of approximately 40 miles, and is approximately 10 miles wide at its narrowest point, and contains 1,510,227 acres.

Of this gigantic reservoir, 1,104,283 acres is estimated to be productive of sweet gas, while the balance of 405,944 acres is productive of sour gas. Of the total reservoir, various geologists and engineers have estimated that some 150,000 to 200,000 acres are underlain with oil.

A Vast Reserve

The recoverable gas from the reservoir has been variously estimated as between 15 and 25 trillion cubic feet. Since these estimates were mostly made seven or eight years ago, and since that time the proven gas productive acreage has been increased by nearly 200,000 acres, and considering the known withdrawal of gas to date, in connection with the known decline of 17 percent in the weighted average pressure for the entire gas reservoir, it is probably conservative to say that at least 25 trillion cubic feet of gas is a reasonable estimate of the original volume in place. Approximately six trillion cubic feet of this gas has been produced from the reservoir as of January 1, 1937, and at that time there were 1311 producing gas wells with a daily potential capacity of 20,194,857,000 cubic feet of gas, having a daily allowable of 1,348,955,000 cubic feet.

Estimates of the original recoverable oil in place have ranged from 600,000,000 to 1,000,000,000 barrels, largely depending upon the date on which the estimates were made, or the conservativeness or liberalness of the estimator. Probably an average of these two extreme estimates, or 800,000,000 barrels, may be regarded as a reasonably conservative estimate. As of January 1, 1937, approximately 248,000,000 barrels of this oil had been produced, and at that date the fields 2990 producing oil wells had a daily potential capacity of 827,229 barrels, and a daily allowable of 69,110 barrels.

From inception of operations to date, slightly

more than 800 oil wells have been either abandoned, or plugged back and converted into gas wells.

Practically all the oil and gas so far found, comes from one or the other of the four major producing horizons; namely, the Dolomite, Gray lime, Arkosic-Dolomite and Granite Wash, which lie one above the other in the order named. There are sound reasons for regarding these four separate producing horizons as one common resorvoir:

(a) For the reason that there is abundant evidence to indicate that they are by nature interconnected one with the other throughout the entire reservoir. In addition to the natural interconnection, several hundred wells have been drilled, scattered along practically the entire length of the structure, and completed in such a manner as to artificially create such interconnection; and

(b) The original formational pressure was found to be uniform at approximately 430 pounds per square inch gauge in each of the four producing horizons, and regardless of the depth at which the formation was encountered, varying from approximately 1600 feet at the eastern end of the field, to approximately 3800 feet in the most westerly portion.

The buried granite range above mentioned comes to the surface as the Wichita Mountains, in southwestern Oklahoma, at an approximate elevation of 1000 feet above sea level. The oil and underlying water that is encountered in the Panhandle field occurs at approximately sea level, and since the source of such water is found in its intake in the Wichita Mountains, consequently exerting a hydrostatic head of 1000 feet, the unusual and subnormal formational pressure of 430 pounds is partly explained.

Development History

The discovery well was a gas well drilled by Amarillo Gas Company, in 1918, in the northern Portion of Potter County, and following this discovery, several additional gas wells were soon completed. The first oil well was completed in May, 1921, by Gulf Production Company, on the Burnett Ranch, in Carson County, for an initial production of 200 barrels daily. The development for the next three years was quite limited and confined to the vicinity of the discovery oil well, and at the end of 1924 only 16 relatively small oil wells had been completed. Drilling continued in the Burnett Ranch area through 1925, 44 additional producing oil wells being completed that year, bringing the total daily production to 5500 barrels. Also in 1925, Midwest Exploration Company completed the first oil well in Wheeler County, approximately 80 miles a little south of east. Early in 1926, Dixon Creek Oil and Refining Company brought in the discovery well in what proved to be the very prolific Borger pool, in Hutchinson County, and this precipitated the first intensive development in the Panhandle, with the result that by September of that year 813 oil wells were producing 165,000 barrels daily. The year 1926 also marked the opening of the South Pampa pool, in Gray County, by the completion in July of Shamrock Oil and Gas Company's Werley-Reynolds 1 as a 1200-barrel producer.

Since that time oil and gas development has continued with reasonable regularity with the result that from inception to date approximately 3800 oil wells have been drilled in 27 so-called pools extending about 100 miles along the north flank of the Panhandle structure, and more than 1300 gas wells have been drilled scattered over this tremendous reservoir.

Development of the Gas Waste Problem

As the intensive development in the Borger sector got under way and as these wells were drilled with cable tools to the prolific Gray Lime formation, large volumes of gas were penetrated in the overlying Dolomite horizon, and a great many operators followed what seems in the light of today's values a very inefficient and shortsighted policy by completing their oil wells so as to be able to at the same time produce large quantities of gas from the upper gas producing horizon, along with their oil. Many wells that were properly completed in the first instance were later reworked by either shooting, ripping or raising the oil string of casing, and the first cracking ajar of the flood gates of waste was ushered in.

As the production from such oil wells materially declined after several years of such operating practice, and the accompanying volumes of gas were largely maintained, oil-gas ratios of a great number of these then so-called oil wells reached fantastic proportions, the all-time but unenviable record being reached in one instance of a well producing 27 million cubic feet of gas with its one barrel of oil. There were literally hundreds of such wells with gas-oil ratios ranging downward from this record-breaking extreme to those merely producing a paltry few hundred thousand feet of gas to a barrel of oil.

While it is impossible to excuse and condone such a wasteful method of well completion and operation —and the writer strenuously disclaims any idea of offering a defense for such a wasteful practice — it probably developed more than for any other reason from an absolute lack of market for such gas at that time, and inability to foresee that there ever would be a substantial market by reason of the great distance that the Panhandle field was removed from industrial centers, unless it was from a mistaken idea that this was a "cheap" way to produce oil. In any event the practice should go down in our industrial history as an outstanding example of "saving at the spigot while wasting at the bunghole."

In all fairness, however, it can be said that even in the case of operators frowning upon such practice, the fact remains that proper completion of oil wells in this area, particularly with reference to obtaining a minimum gas-oil ratio, has always presented more than a normally difficult problem.

Natural gasoline plants were early attracted to the area by reason of the tremendous volumes of gas being produced with the oil, and early in 1926, the initial plant was constructed and additional plants followed the oil development, so that on January 1, 1937, 43 such plants were in operation, having a throughput capacity of 2,474,000 M cubic feet of gas daily. During the month of November, 1936, these plants processed a daily average of 1,369,723 M cubic feet of gas and recovered therefrom an average of 921,540 gallons daily, or approximately 50 percent of the total natural gasoline produced in the state.

With the enormous volumes of unmarketable residue gas soon available from early-day gasoline plants, the carbon black industry was soon attracted to the Panhandle, and the first plant constructed for the manufacture of carbon black started operations early in 1927. Since that time this industry has con-

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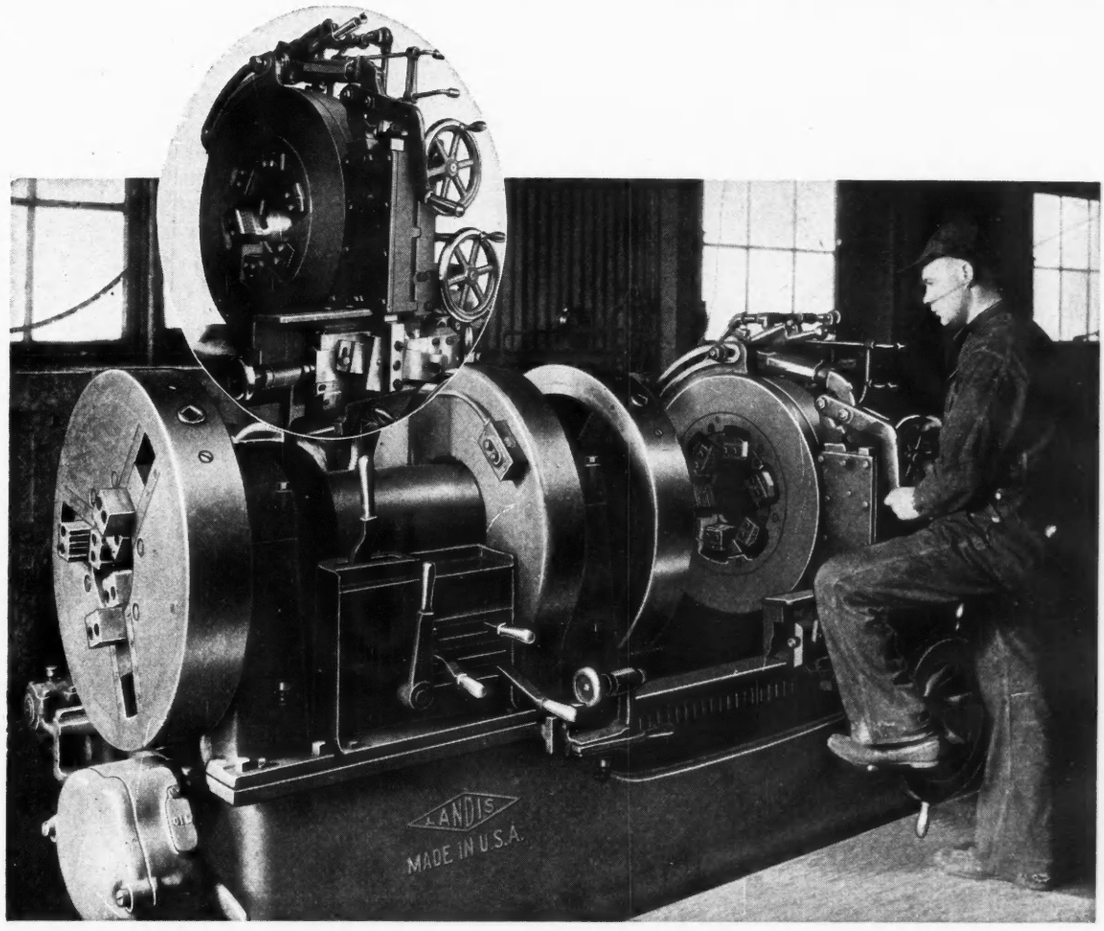

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tinued to expand its operations in the field, with the result that there are now 30 plants in the area which during the month of November, 1936, burned a daily average of 646,697,000 cubic feet of gas from which was manufactured a daily average of 934,505 pounds of carbon black, or 96 percent of that produced in the State of Texas, which is in turn about 75 percent of world production of this valuable commodity.

Beginning in 1926, by which time a gas reservoir of gigantic proportions had been proven, the first pipe lines for the transportation of gas from the field to far away markets began to take form, and soon thereafter the first line was completed. Today there are 24 lines of varying lengths, sizes and capacities serving the field. Of these, 10 are usually referred to as the major ones, and the remaining 14 are miscellaneous smaller lines, generally serving local communities. Of the major lines, several of as large diameter as 24 inches transport gas as far away as Chicago, approximately 1000 miles, and Indianapolis which is approximately the same distance, and the latter line is now extended to Detroit.

Before any such major pipe lines could be financed and constructed, it was obviously necessary that they have an assured supply of gas, and in nearly all cases such major projects purchased large leaseholds of gas producing acreage, and by the drilling of wells thereon obtained their own source of supply. Almost without exception these major lines were completed during the late depression, only to find the market that they had anticipated when the projects were launched, to be greatly reduced. This circumstance, in addition to the fact that they had an abundant available gas supply from their own wells more than adequate to meet all their market requirements, caused them, with slight exceptions, to refuse to purchase gas from other gas well owners.

These owners of unconnected gas wells found themselves in an extreme dilemma; on the one hand they were suffering drainage from the years of wasteful operation of many oil wells as hereinbefore mentioned, and on the other hand by reason of the drainage caused by the production of gas from wells belonging to the pipe line companies.

Additionally, owners of wells productive of sour gas found themselves in the same predicament or worse, as they had no available market for their gas from the pipe lines or otherwise, and faint hope of ever securing one.

First Efforts to Find Solution

Upon this problem's being brought to the attention of the Legislature of the State of Texas, that body passed in 1931 what is commonly referred to as the "Common Purchaser Act," designed to make the pipe line companies common purchasers so as to afford all gas well owners a fair share in the market. The first order issued by the Railroad Commission under this statute was stricken down by the courts upon grounds of unconstitutionality.

Thereupon the commission promulgated what is generally referred to as its "Shut Down Order," which required that certain connected gas wells in prescribed areas, presumably causing drainage from unconnected wells and leases, shut down until a ratable market was afforded all gas well owners. This order met a fate similar to the previous one.

Again in 1932, the Legislature passed another statute designed to bring about proration of gas production to the market demand, and on December 30 of that year an order of the commission was issued thereunder to make effective such statute; this order being similarly stricken down by the courts.

Thereupon the commission started the practice of issuing permits under authority of an existing statute, for the utilization of gas from sweet and sour gas wells for "any purpose which under the circumstances surrounding each particular case might be found by the commission after hearing to be practical and conducive to the public welfare." Under these permits several "stripping" plants were constructed and processed large volumes of gas taken from relatively few gas wells on very limited acreage, extracting the small content of gasoline therefrom and discharging the resultant residue into the air. Thus the flood gates of waste were jarred open considerably wider, and approximately 700,000,000 cubic feet of residue gas per day was being blown into the air.

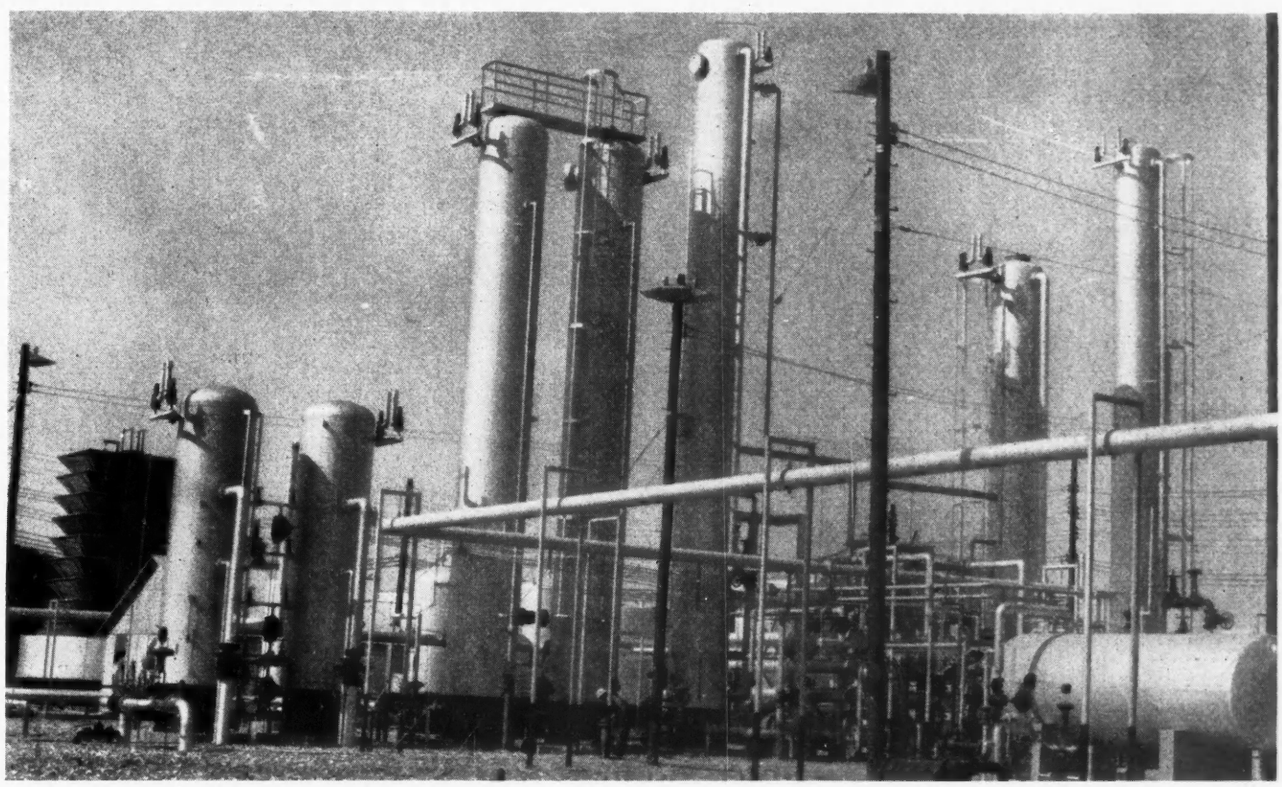
The next legislative action was in 1933 when the so-called "Sour Gas Law" was passed, providing among other things that "in all common reservoirs or pools consisting of more than 300,000 acres, where gas is encountered for which there is no reasonable market for light and fuel available to the owner, the same may be utilized for other purposes, including the manufacture of natural gasoline, to the extent of 25 percent of the open flow of the well producing such gas, and under such circumstances such utilization for purposes other than light and fuel shall not constitute waste." The flood gates of waste were now wide open, as the immediate effect of this act was the construction of more and larger "stripping" plants with the result that in a few months the amount of residue gas being discharged into the air exceeded 1,000,000,000 cubic feet a day, with one plant accounting for one-fourth of this volume alone.

The salvaging of the meager content of gasoline from this gas, representing about 3 percent of its heat value, while the residue gas, representing 97 percent of value, was wantonly discharged into the air, achieved a record of waste without a parallel in our industrial history, and has been aptly likened to that of a rancher killing prime beeves on the range, salvaging their hooves for the manufacture of knife handles while leaving the valuable carcass to rot.

Someone with a flair for figuring has computed that this volume of gas—incidentally, exceeding, according to the then current bulletins of the United States Bureau of Mines, the total daily consumption of natural gas in the United States—is the equivalent in heat value of 1300 carloads of high grade bituminous coal, 50 tons to the car, or of 175,000 barrels of average Panhandle crude oil.

It has also been computed that this tremendous volume of gas, efficiently consumed in proper prime movers, is capable of producing electric energy in excess of the combined capacity to produce such energy of the hydro-electric installations built and building at Boulder, Norris, Booneville and Grand Coulee dams.

As staggering and startling as these examples of only one form of this tremendous waste are, they seem mild compared to the same examples computed to cover the total accumulated waste of gas. From inception of operations to date, it has been carefully calculated that in excess of 2½ trillion cubic feet of gas has been discharged into the Panhandle atmosphere, much of it without even having its meager gasoline content extracted. Converted into terms of heat value in coal, this unimaginable quantity of gas



is the approximate equivalent of 3,250,000 carloads of coal, which is enough coal to form a train, averaging 40 feet to the car, 21,564 miles long.

In addition to such literal physical waste of so valuable an irreplaceable natural resource and commodity, the disastrous effects upon the recovery of oil from identical or interrelated producing horizons is, in the light of our knowledge and appreciation of such values today, painful indeed to contemplate.

Principally on account of the fact of the abnormally low pressure found in the Panhandle, and the very negligible effect of water drive as a producing force, probably no oil field has yet been discovered in the United States where the need to conserve pressure and energy was so obviously apparent as here, but the cruel facts are that probably in no oil field has extreme waste been so marked. The result can only be a materially lessened oil recovery. In the case of "Danciger Oil & Refining Company vs. the Railroad Commission," competent engineers testified that if the then existing waste of gas and consequent dissipation of energy continued (and it did continue for several years until the gas waste was nearly double that current at the time) some 250,000,000 to 300,000,000 barrels of oil would be left unrecoverable in the Panhandle reservoir. Such testimony was neither questioned nor refuted. What a shameful commentary on our vaunted Yankee efficiency!

In addition to such unthinkable physical waste of gas as has been hastily outlined herein, the operation of these "stripping" plants, drawing as they did such enormous volumes of gas from very small acreage, did violence to the whole theory of correlative rights, since examples can be given of volumes of gas produced from individual leases far in excess of the most liberal estimate of the quantity of recoverable gas originally in place. Indeed, extreme examples can be given where as much as 100 times such original estimated content has been produced from certain leases.

Passage of House Bill 266

From the above admittedly sketchy outline of conditions existing in the Panhandle oil and gas field as of February, 1935, when the Forty-Fourth Legislature of the State of Texas, then meeting, again undertook the task of finding means of solving the many-sided and intricately involved and complicated problem, with its existing ills, some slight conception of the very difficult task presented may be gained.

After, it has been said, spending more time in hearings on and study of the involved problem than had ever been given any other subject by them, the Legislature finally evolved and passed the present gas conservation statute commonly known as House Bill No. 266.

Very briefly, House Bill 266 which has often been referred to as probably one of the most comprehensive conservation statutes so far enacted, provides:

1. Definitions of gas and oil wells, dry gas, sour gas, sweet gas, and casinghead gas.

2. Prohibits waste in any form, re-enacting previous statutes dealing with this subject, and adds the following specific prohibitions:

(a) The production of natural gas in excess of distribution facilities or market demand.

(b) Use of natural gas for carbon black manufacture without first processing it for the extraction of its gasoline content.

(c) The production of natural gas from a well producing oil, from a stratum other than that in which the oil is found, unless such gas is

produced in a separate string of casing from that in which the oil is produced.

3. Provides that sweet gas from a gas well shall be used for the following purposes only:

(a) Light and fuel.
(b) Efficient chemical manufacture other than the manufacture of carbon black.
(c) Introduction into oil or gas bearing horizons.
(d) The extraction of natural gasoline therefrom, when the residue is returned to the horizon from which it is produced.

4. Provides that sour gas may be used for any of the purposes authorized for sweet gas, plus utilization for carbon black manufacture, provided it is used in a plant producing a recovery of not less than one pound of carbon black to each 1000 feet of gas, and provided further that such gas be first processed for the extraction of its gasoline content.

5. That casinghead gas may be used for any beneficial purpose.

6. That either sweet or sour gas or casinghead gas may be used for gas lift purposes with certain restrictions.

7. Provides for zoning a common reservoir if the commission finds that the prevention of waste and/or adjustment of correlative rights may thereby be more adequately accomplished.

8. Authorizes agreements between two or more land-owners or operators, with the approval of the attorney general, to unitize lease holdings when necessary to secure most advantageous development and share in the market outlet.

House Bill 266, passed in May, 1935, became effective as to sweet gas on August 1, 1935, and as to sour gas on October 1, 1935. The order of the commission issued thereunder prorating the production of sweet gas, by wells, to market demand, was attacked by two of the pipe line companies serving the Panhandle field, and upon hearing before a three-judge federal court at Houston, the order met a fate similar to that of its predecessors. The case was appealed to the United States Supreme Court, and as this article is being written, the press carries a report that that court has held the order of the commission invalid on the grounds that its purpose was to compel the pipe line companies to purchase gas that they did not need nor desire; that the production of the amount of gas desired by the pipe line companies from wells on their own leaseholds did not constitute waste; and that the remedy for the owner of a gas well without a market was to provide himself with one.

Happily, at least in the writer's opinion, this decision, while regrettable, is not so serious conservation-wise as might seem at first thought. The high court's decision upholds the waste provisions, and the chairman of the commission has been quoted as saying that they would experience no great difficulty in writing a new order along the lines of the Supreme Court's ruling.

Additionally, since the effective date of House Bill 266 and the orders of the commission issued monthly thereunder, the critical condition then existing in the Panhandle has been gradually and continuously curing itself in several respects.

On August 1, 1935, there were approximately 180 unconnected gas wells in the Panhandle. Since that date most of these gas wells have secured pipe line connections and are enjoying their proportionate part of the gas produced and marketed in the field.

The commission, since the effective date of this act, has been vigorously attacking the problem of high gas-oil ratios, and a most remarkable improvement in that respect has been brought about. Many of the so-called oil wells have been reclassified as gas wells and their production of gas automatically greatly curtailed to their allowable. Substantial improvement from reconditioning is evident in the reduction of gas produced from a considerable number of real oil wells, and steps to improve this condition are continuing.

Since this has resulted in a diminution of the supply of so-called casinghead gas, several hundred oil wells heretofore unconnected to gasoline plants are now connected, and in order to replace the substantial diminution in the supply of residue gas from gasoline plants available for carbon black manufacture, a considerable number of sour gas wells have been drilled, and these wells in addition to wells already completed but without a market have been largely connected to gasoline plants, and their allowable of gas produced and gasoline content extracted, and the resultant residue gas made available to meet the demand for such gas for carbon black manufacture, thereby affording a market for long-suffering sour gas well owners.

Whereas, according to a report compiled by the Gas Engineering Department of the commission, a daily average of 1,073,323,000 cubic feet of gas was blown into the air during the month of April, 1935; one year later, in the month of April, 1936, a daily average of only 95,124,000 cubic feet found its way into the Panhandle ozone. Since April, 1936, the total amount of gas going into the air has been only slightly higher than that month's average volume, and since approximately 50 percent of that gas is being produced by the several hundred oil wells still unconnected to a gasoline plant, the remaining volume of approximately 50,000,000 cubic feet daily is regarded as quite negligible when it is realized that it is only about 3 percent of the current total average production of approximately 1,650,000,000 cubic feet of gas daily.

Several of the "stripping" plants operating in the sweet gas areas and without a market for their residue gas have been abandoned, but several other "stripping" plants now operating on a greatly curtailed basis, from regularly prorated well allowables and with a market for their resultant residue gas either to a pipe line purchaser, in the sweet gas areas, or to a carbon black manufacturer, in the sour gas areas, are enjoying their proportionate share of the field-wide gas demand with no attendant waste.

All these remedial measures are reflected in the fact that the weighted averaged pressure of the field, as indicated by the most recent pressure survey made by the commission, is slightly higher than the average pressure shown by the preceding survey, six months prior thereto, thereby reversing a trend of long standing.

Consequently, it is not thought at all likely that the action of the United States Supreme Court in striking down the commission's orders having to do with the proration features of House Bill 266 at all indicates that we are to see a return of the shameful waste of gas for so many years prevalent in the Panhandle field.

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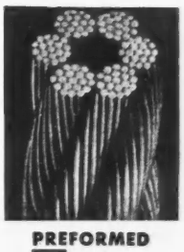

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Illinois' Future Improved

RECENT LEASING PLAY AND GEOLOGICAL CONDITIONS INDICATE GOOD POSSIBILITIES

By HOMER EASLEY, Salem, Illinois

DURING the past two years there has been a growing interest in the Eastern Interior Basin area of Illinois and adjoining states. Many major companies during this time have entered the district and leased large amounts of acreage. The play recently received additional impetus when a new field was discovered near Patoka, Illinois. Already a number of important tests are drilling and others are anticipated. Because of the favorable indications, it is anticipated that Illinois may play a much more important future role in the petroleum industry.

Structural Features

What has been defined as the Eastern Interior Basin and sometimes referred to as the Illinois Basin, since the greater portion lies within that state, has been known since early pioneer days from the coal measures of Pennsylvanian age that occupy much of its interior portion surrounded by older and still older outcrops farther and farther out towards its rim. The materials that became the solid rocks now present were deposited in a northward pointing arm of the sea, and sedimentation continued with a variety of interruptions from very early times to the end of the Pennsylvanian period. The basin was formed by a long protracted gentle settling that just about kept pace with sedimentation.

After Pennsylvanian time an uplift across this arm closed it to the south and completed the Basin as it is known today, with its lowest point in or near White County, Illinois. This arm extended an unknown distance down the east side of what is now the Mississippi valley and increased in both width and depth to the south; consequently, in a general way there is a thickening of materials toward the axis and to the south as well. The basin is somewhat egg-shaped with the small end to the north where it is less well defined and shallow. The east and west sides have low gentle dips that become steeper toward the south as they are warped to meet much steeper dips around the southern end.

LaSalle Anticline

Within the basin a structural feature of interest to the oil industry is the LaSalle anticline reaching from northern Illinois to southwestern Indiana roughly paralleling the axis of the basin, but sometimes 40 or more miles up the east side. This anticline pitches with the general trend of the basin to the southeast and its presence has been responsible for the many oil pools along its southern part that are commonly known as the southeastern Illinois oil fields. In northern Illinois Ordovician formations are found in the crest of this fold. As it is traced southward, younger and younger rocks occupy its crest with late Pennsylvanian coal measures appearing upon its southern one-third. Small minor cross-folds have governed the accumulation of oil at many points, but the anticline has been the major cause.

DuQuoin-Sandoval Flexure

A second structural feature of most importance here is the DuQuoin-Sandoval flexure, sometimes called an anticline, that is best known near the towns that give it its name. Near DuQuoin this flexure is well developed. Farther north it becomes uncertain only to reappear again in Marion County associated with faulting south of Sandoval. Recent development has extended its known range about 10 miles farther north where it is again likely associated with faulting. The known portion of this flexure is well up the west side of the basin and trends almost due north and south. Its southern end is most likely near Elkville, a few miles south of DuQuoin, but its northward termination is unknown. No attempt is here made to define it farther north, but in view of its importance in the proposed drilling program now under consideration, it is well to remember that some good shows of oil have been found near Decatur, under coal contours that suggest folding. A saddle is believed to exist across the axis of the basin in the vicinity of Bloomington, while at LaSalle the position of the folded sediments in the LaSalle anticline are somewhat irregular. All these points are in line with the trend of the known portion of this flexure. The most pronounced feature of this flexure is a persistent and abrupt change of dip in the beds along its trend. They dip very gently down to this flexure from the west and almost flatten out. Eastward from the flexure the dip is much steeper into the basin. At intervals along the line of this flexing or bending in the Sandoval area cross-folds of minor importance have produced small low-lying domes upon which are located valuable oil pools, one of which has just recently been discovered. At other points along its known trend and its possible extensions shows have been encountered that are worth considering.

Ozark Spur Structure

A third structural feature is the Ozark spur across southern Illinois associated on the east with a fault zone passing into the northern part of Kentucky and is of little interest at this time. However, there is an area within this zone centering around Hardin County, Illinois, that has been disturbed after Pennsylvanian time by igneous intrusions that are exposed at one place in that county. At Rosiclare, well within the disturbed area, flourspar is mined from vertical veins that have filled fissures in rocks of Mississippian age. In one of these mines oil has been

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reported oozing up from below. To the north in the vicinity of Eldorado, igneous dykes appear in the country rock of late Pennsylvanian age and are encountered in mining operations where the heat from the molten magma has burned the coal to an impure coke for short distances along the contact. Oil has been reported oozing up along the side of one of these dykes. At other points nearby, oil and gas in various amounts but never in paying quantities have been found in drill holes. The areal extent of these igneous intrusions are not known, but it is surely of such proportions as to preclude the possibilities of commercial oil fields over a considerable area upon the south end, or rather end, of the basin.

Taken as a whole, the basin covers the greater part of Illinois, a considerable area in southwest Indiana, and much of western Kentucky. However, the oil industry is at present most interested in the territory south of Decatur, Illinois, that is roughly bounded by the triangle formed by the three structural features just described together with that portion of southwestern Indiana that may be affected by a possible extension of the LaSalle anticline into that portion of the state and also a narrow strip lying just west of the DuQuoin-Sandoval flexure that spreads fan-shaped to the west at its northern end.

Glacial deposits cover the older indurated formation over nearly all the area and are from a few up to 300 feet thick. These glacial muds have no structure or bedding. They lay on the rough eroded surface of the solid rocks, which have been plowed and pushed about by the ice sheets, and they thus serve to hide and obscure most surface indications of structural features that may be present. Only in a very meager way can the bed rock be observed and studied over much of this area. Occasionally a locality is found that can be mapped, but even then exposures are usually confined to small areas far removed apart and correlations are somewhat uncertain, all of which contributes to conditions that make satisfactory field work very difficult. Furthermore, there is not sufficient information now available to properly interpret the unconformities that are known and still others are surely present.

Sub-Surface Geology

The sub-surface geology can be discussed here only in a very brief way. The Ordovician that is represented by the Ellenburger of Texas and the Arbuckle, Simpson, and Viola groups of Oklahoma is present under the entire basin and contains the St. Peter sand that is similar but not the exact age of the Wilcox of the Mid-Continent District. This St. Peter sandstone is 100 or more feet thick. It outcrops to the west and northwest of the basin and again at LaSalle within its northern end. It has been found in a few drill holes and it is reasonable to expect it at all points. Included in this formation in ascending order is the Plattin and Kimmswick limes, some of which may be of same age as the Trenton. These limes are present and carry oil in commercial quantities several places along the west side of the basin.

The Silurian and Devonian are present but not well understood. Outcrops to the southwest of the basin are known, and these formations have been reached by drill holes outside of the deeper area. Important production in the Martinsville pool in the southeastern field comes from these formations.

The Mississippian members are all present, but the upper or Chester series thin out to the north and do not extend far beyond Decatur. The lower members so far have been of questionable value. As a whole the Mississippian consist of shales and limes below, followed by massive limes several hundred feet thick in the middle, with the Chester series of about equal parts of sand shales and lime well distributed at the top. The McCloskey "sand," really an oolitic lime, produces oil in the southeastern field on what appears to be buried eroded "highs." This "sand" is just below the top of the massive lime portion. The Chester series has been the principal source of oil production in Illinois and is prolific in both the southeastern field and up the west side of the basin.

The Pennsylvanian is represented at all points by sediments that are as much as 2000 feet thick near the deeper part of the basin and extend beyond the area here described on all sides. They rest upon a widely eroded surface and overlap older and older measures progressively north and northwestward. Oil was first discovered in the Pennsylvania measures in the southeastern field and some important production has come from this age stone. Likewise on the west side of the basin the discovery was in these measures and the Junction City and Wamac pools produce from horizon of this age.

Will Thicken Toward Axis

It is well to remember that beds will thicken toward the axis of the basin and again southward along its trend. Likewise there will be a tendency sometimes absent, but at other times pronounced for sandy formations to change to shale, and shaley formations to lime in the same directions. Shoreline conditions may be expected both inside and outside of the area here described that might serve as gathering points for oil, but exact localities have not been worked out. Some such conditions have been suggested as affecting portions of the southeastern field, and other localities have been suggested as favorable territory. If shoreline production is found, it will more likely be sand deposits influenced by embayments and noses rather than of the shoestring type.

Many bulletins have been issued by the Illinois Geological Survey under the direction of Dr. A. H. Bell, head of the Petroleum Division, that are of interest to the industry. One is a 20-page leaflet with 10 contour and isopach maps compiled by Dr. J. Marvin Weller and issued as Illinois Petroleum No. 27 in which he has presented in concise form a wealth of information valuable to all who are interested in the present exploration. Another is Illinois Petroleum No. 40 by Doctors Bell and Weller, dealing with the surface geology of parts of Marion and Clay counties and outlining four structural "highs" that were promptly leased up.

Leasing Operations

Late in 1935 leasing operations started by major companies in Effingham, Clay, Marion and Jefferson counties and quietly spread in a north and northeast direction and later in a south and southwest direction until the zone is now about 140 miles long and 25 or 30 miles wide at places and reaches from the vicinity of Murphysboro on the south to and beyond Mattoon on the north. Some blocks in this zone have been leased up almost solid, others have been only checkerboarded, and considerable areas have been scarcely touched. On the east side of the basin a zone has been leased almost solid between Fairfield in Wayne County and Newton in Jasper County that is more than 60 miles long and from 6 to 12 miles

wide. One company is said to own a great majority of these leases. Another zone of leasing activity that came in late for attention follows the DuQuoin-Sandoval flexure and extends northward nearly to Decatur, spreading westward in its northern half. Other localities in between these zones have been lately leased or checkerboarded more or less until the zones are almost, if not quite connected at some places. Outside and off to itself in Saline and Gallatin counties is an area that has received quite a bit of attention in a leasing way.

Geophysical Work

In some areas leasing was done after a seismograph survey was made, while a great deal was leased and "shot" afterwards. In a few places leasing and surveying was carried on at the same time. Still other localities have been leased several months and no survey has been made. The several "highs" described by the State Survey have all been picked up. A torsion balance survey made about five years ago seems to have had an influence in some areas along with the current work done with the seismograph, but only in a very few places has any survey work been carried far enough to determine definitely just what underground conditions really exist. Only in a general way has the basin been covered by any of the usual methods of investigation, and well informed sources will not even hazard a guess of the ultimate result nor when or where to expect results. A few wells have been drilling for some time, others will be started by spring or early summer, but a great deal of field work remains to be accomplished before any real program can be formulated. Procedure seems to be along a safe, sane, and orderly manner and well planned to get best results. Under these circumstances the lease buyer does not know where to work and the broker cannot get the necessary information to market his offerings properly.

Two New Fields

During May, 1936, Bartelso Oil & Gas Company discovered a new pool outside but adjacent to the west side of the territory here described. The discovery was in Section 8-1n-3w, on the Bartelso dome described by the State Survey as early as 1915, and has been drilled many times. The well was finished producing 115 barrels on pump, and eight other producers and seven dry holes have since been completed. At present the field is making around 300 barrels of oil, all from Chester sands that have produced either oil or gas at Centralia, Carlyle, Frogtown, Greenville, and Sandoval for many years.

Eight miles west of Centralia on the Hoffman anticline reported by the State Survey, Carl Willi et al have recently brought in a duster in the Chester sand in Notting 1, SE NE 11-1n-1e, at 1355 feet. They had a show of four or five barrels and the structure is to be tested again.

The last week of January saw another discovery when Adams-Louisiana Corporation beat all other companies in the present "play" by bringing in Merriman 1, SE SW Section 20, Patoka Township, 4n-1e, in the extreme northwest corner of Marion County for a 250-barrel well of 39 gravity oil in a Chester sand topped at 1378 feet after an 8-quart shot. This well is on a northward extension of the DuQuoin flexure and brings up anew the question of how far the flexure extends in that direction. The pool was located by a seismograph survey between dry holes in four directions and will likely not exceed 1000 acres in extent. Dry hole records indicate the structure is more than 100 feet high and is surely faulted. Westward dips of 100 feet to the mile so far have been unknown in this section of the basin. This discovery has materially increased leasing and royalty buying not only in the immediate territory but has started a campaign to search out and test this flexure in the uncertain portion across Washington County to the south as well as to determine the extent and location of its northward trend.

Additional Drilling

Adams-Louisiana Corporation is moving a rig about one-fourth mile north for a second test.

Some five miles to the southwest, Kahlert and Hawley have a rig on location on the DuComb farm, Section 13-3n-1w.

Wiser Oil Company has obtained a block in Section 27-4n-1e, and is preparing to drill about 1½ miles southeast of the discovery.

One mile south of the Merriman producer in the Village of Patoka, a town lot leasing campaign is on, and small outlying tracts of land have been all picked up.

Near DuQuoin in SW NW 5-6s-1w, Howard Forester has a well drilling on his own property in the Kimmswick-Plattin at 4650 feet. This well was started in April, 1935, before the lease play got under way. The last string of casing was set at 2503 feet, with a liner at 3110 feet. Small shows of oil and gas have been encountered but no water since 2500 feet. The well is favorably located on the east side of the flexure and will be drilled to the St. Peter if possible.

Out in the deeper territory near Ina in Jefferson County, Edward L. Dee et al has a 96-foot derrick and a rotary outfit on location in Section 20-2s-2e, and is about ready to go on a block just east of the Nason Coal Company property upon which a good show of oil was found in the McCloskey "sand" a few years ago at 2900 feet. This is the first large rotary outfit to come into the basin and its progress will be watched with interest.

Near the axis of the basin and on the southern end of a large block Pure Oil Company has a standard rig over George Bradley 1, SW NW 26-1n-7e, Bedford Township, in Wayne County, and another over E. Weiler 1, SW SE 33, Clay City Township, Clay County. Both wells are under contract and are down around 3000 feet or nearly through the Chester series that are always the source of a lot of grief with cable tools.

Another well, the log of which is of much interest at this time is Leach Bros.' Jos. Ellen 1, NW NW 3-2s-10e, in Edwards County, that is shut down at 4932 feet. This well is only a few miles from the bottom of the basin, where formations are not only thicker but likely all present.

Eddington et al H. Nichols 1, SW SE 12-4n-4e, in the northeast corner of Marion County is drilling on a State Survey "high" and are down 1250 feet in 12½ holes and in the Carbondale series of middle Pennsylvanian age. It is expected to find the top of the Chester of upper Mississippian age around 1700 feet.

The deeper part of the basin where drilling must be deep and expensive naturally belongs to the larger companies but the DuQuoin-Sandoval flexure and the territory west of it where the sands are shallow is any man's land who gets it.

A.P.I. Meeting

[*Continued from page 14*]

Moore, Inc. It was pointed out that the present area of the productive zone includes about 5,000 acres. From present indications, the limits of the field have been fairly well established.

The pool is located in a Graben, within an area condemned by a number of interests prior to the drilling of the first commercial gas well by W. A. Delaney in 1933, and by prolific production has been a spur to increased wildcatting over a large section.

The eight horizons of the pool being produced at this time include the McAlester and Atoka sands, the Cromwell sand, Hunton, Viola, Viola-Bromide, Viola-Bromide-McLish, Wilcox and the Oil Creek sand. There are 603 wells into these horizons at this time.

It was found practical to use unusually large doses of acid in treating lime formations of the pool, these being administered in two doses for the best results. The practice of drilling with pressure control equipment was introduced into the area, and was widely accepted by operators. Reservoir characteristics, producing practices, proration, etc., are covered thoroughly by the authors.

This first part of this lengthy paper is printed in full in this issue. It is devoted to the unusual geological conditions that exist at Fitts.

★ Select portable shallow rigs for particular job

Selection of the proper equipment for a special job was recommended by D. M. Auld, Philtex division of Phillips Petroleum Company, in his discussion "Portable Rigs for Shallow Drilling." Spudders are available for the several types of field work and the job of the producer is to select equipment to fit the needs.

Auld brought the possibility of introducing portable rotary rigs into the shallow area of northeastern Oklahoma and eastern Kansas, especially where operation indicates the desirability of taking cores. His paper is presented in full elsewhere in this issue.

★ Kansas method is away from other potentials

The trend of potential methods in Kansas has been to get away from the necessity of taking tests over long periods. The evolution of what the Kansas Corporation Commission requires was outlined by T. A. Morgan, Wichita, director of the conservation division of the commission. He traced the change from the first potential period, which required 10 days, down to the present when the effort is made to get potentials by declines.

Rules of the commission permit the taking of a potential without a full 24-hour physical test. Before any well is granted an allowable, a potential must be taken, which stands for 60 days, when a retest becomes due. When the potential of a field is in excess of 100 barrels per well, it is required that potentials be taken each four months and these must be of 24 hours duration.

The 60-day retests are an effort to determine the first serious potential decline in a well.

Morgan classed the 24-hour potential as the backbone of proration methods in Kansas. Other methods are used to accommodate producers. The fact that physical potential tests are expensive, put a strain on equipment and this run counter to conservation are reasons for adopting other methods where conditions permit.

★ Water supply important in flooding operations

A comprehensive discussion of the numerous water flood projects in northeastern Oklahoma and southeastern Kansas was the subject of a paper by Lawrence E. Smith. An important part of the paper was a history of some of the more important developments, beginning with Carter Oil Company's controlled flood in Sections 22 and 23-24n-16e, Rogers County, Oklahoma, and sketching other projects up to and including the present time.

As an interesting side-light into the mechanics of flood operation, Smith detailed certain problems associated with successful flooding, and indicated how they had been overcome by operating firms. It was also shown that so far it is not possible to apply the rule of the thumb methods because of the wide variation in fundamentals. These latter are dependent upon sand thickness, saturation and permeability as factors of major importance, and they all must be considered individually and their relationship correlated to possibilities of success on a per barrel recovery basis.

It was pointed out in the paper that the water supply of the shallow sand area is a matter of grave concern if operations are expanded as now seems probable. The need for water has led to the contemplation of the construction of dams on the Verdegris River and tributary streams. Water from the Ordovician cannot be economically treated for flood purposes, eliminating this watered horizon. In concluding the discussion it was pointed out by the author that the chief problem before prospective flood operators is one of economic practice in the manner of equipment. It is this figure which determines the profitability of any flood scheme.

★ Shameful waste of gas in Panhandle is over

In discussing the waste of natural gas in the Texas Panhandle and showing it to have been the most gigantic instance of blowing gas into the air, H. M. Stalcup, vice president of Skelly Oil Company, Tulsa, gave it as his opinion that this waste was in large measure due to the fact that there was no market for caring for gas production of the size developed in the area. He made no effort to excuse a condition, which he described as:

"It has been carefully calculated that in excess of two and one half trillion cubic feet of the gas have been discharged into the Panhandle atmosphere."

He then detailed the efforts by which the Texas legislature tried to pass laws to give the Texas Railroad Commission authority for taking control of the field. Most of these statutes and the commission orders met defeat in the courts. Progress, however, was made by gaining better gas-oil ratios, by gaining connections to gasoline plants and to pipe line outlets and by a generally better market for gas.

His conclusion was:

"Consequently it is not thought at all likely that the action of the United States Supreme Court in striking down the commission's orders having to do with the proration features of house bill 266, at all indicates that we are to see a return of the shameful waste of gas for so many years prevalent in the Panhandle field." His paper is printed in full elsewhere in this issue.

★ Taxation takes one day out of every week

Taxation and the growing cost of government were presented as a bewildering combination by Frank B. Long, vice president of Oklahoma Natural Gas Company, Tulsa. Cooperation with public officials rather than criticism was the remedy he offered for this growing danger toward business and the individual. He advised:

"You work six days a week at your job. Try a five day week for a while. Give that sixth day to public affairs, because government, politics and public affairs are a part of your job. The salary you earn on the sixth goes to pay for government, anyway, whether you think so or not. This wasn't true 25 years ago but it is today."

East Hearing

[*Continued from page 11*]

were finished during the first 18 days of February.

The commission announced that a special hearing will be held on the Yates field to determine whether wells producing from a sand some 500 feet above the Big Lime should be treated as a separate oil field, and to determine whether acreage should be reinstated as a factor in the Yates proration order.

E. J. McCurdy, producer in the field, declared that the inclusion of the acreage factor, used until recently, would result in more equitable distribution of the oil allowable. This request apparently reopened the entire Yates problem which had been disposed of recently through an order.

V. E. Cottingham, director of production for the Commission, reported that East Texas pressures had dropped 5.65 pounds from January 12 to February 12, and that the average pressure on the latter date was 1170.82 pounds. He said that this was a decline of .405 pounds per million barrels of oil produced. The average allowable during the period was 450,187 barrels daily.

An increase of 7,000 barrels daily for the Panhandle area was requested by Phillips Petroleum Company. This would mean a raise of 2500 barrels in the allowance for wells to which Phillips is connected and the remainder would go to other companies.

Pennsylvania Raise

CRUDE POSTINGS ADVANCED 12 TO 15 CENTS A BARREL

MARKETS have continued on the upgrade trend, and apparently have the strength to retain the ground that has been gained in recent weeks.

The crude oil market demonstrated firmness last week when postings in Pennsylvania were advanced 10 cents a barrel. That increase was significant, as the Pennsylvania postings had been raised 12 to 15 cents a barrel only about two months previously.

This second moderate increase within a short time was encouraging to Mid-Continent producers, some of whom are hoping that the Mid-Continent postings, too, may be given another moderate advance this spring or summer.

Similarly, the producers in California were given further encouragement, as they are hoping for an increase in crude postings on the West Coast. California was about the only area that has not participated in the crude increases of recent months.

Pennsylvania Crude Boost

The South Penn Oil Co., leading purchaser of Pennsylvania grade crude oil, announced Tuesday an advance of 10 cents per barrel in the price paid for this grade, bringing peak quotations up to $2.67 a barrel. The increase became effective at 7 a. m., February 24.

A similar increase would be made by Tide Water Pipe Co., officials said, to apply to the Bradford and Allegany fields. Other companies quoting on this grade, Pennzoil Company, Crew Levick, Valvoline and Pure Oil, were expected to make similar advances.

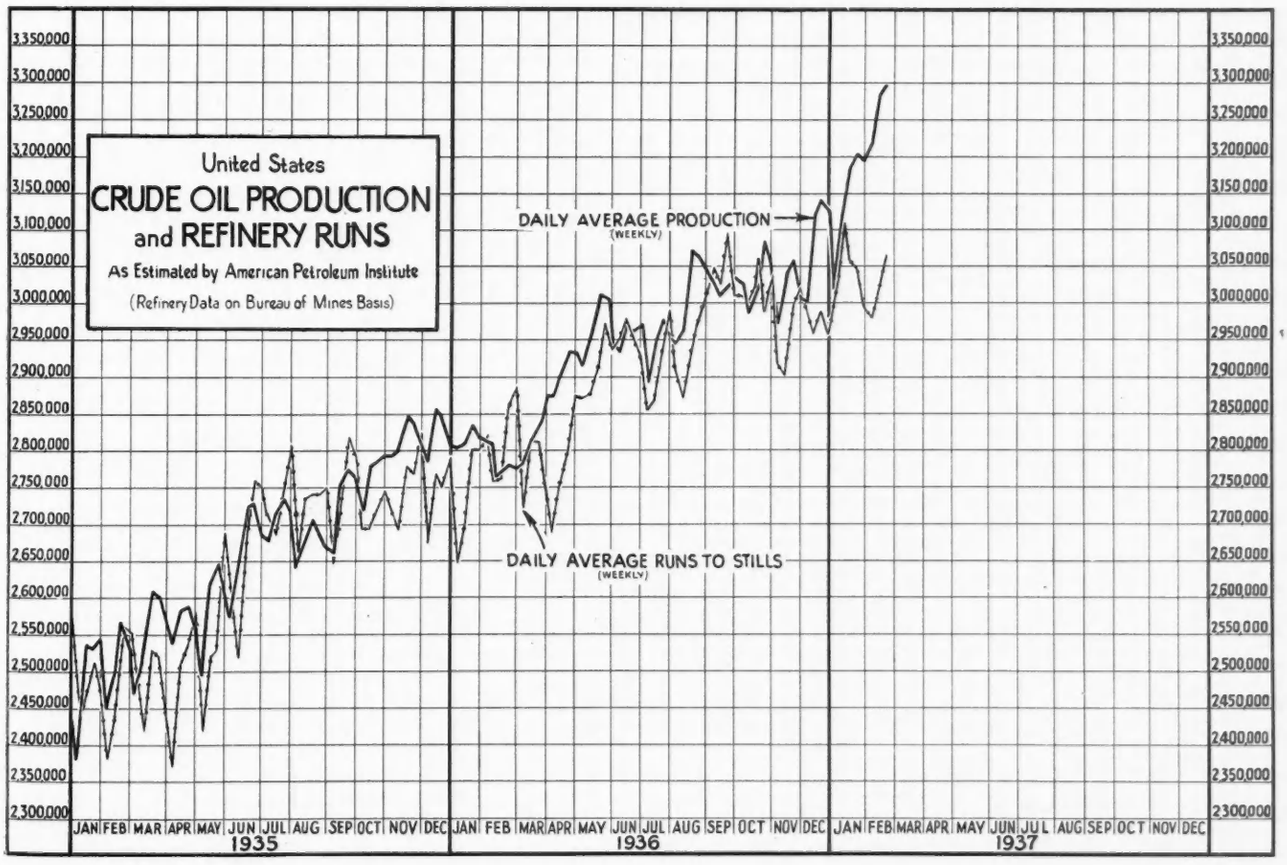
Sales to refiners for the past three months substantially above purchases at the wells is considered reason for the increase. Demand has outstripped production and marked withdrawals from storage have resulted.

Pennsylvania grade crude is now at its highest point since May 1, 1930, when a 25-cent reduction dropped the top price from $2.75 to $2.50 per barrel. It was the sixth successive advance since September 6, 1935, when a five-cent increase raised the Bradford quotation to $2.00.

The increase will add approximately $7,750 per day to Pennsylvania grade crude oil producers' revenue, according to estimates based on average daily production for January, and is expected to markedly increase drilling operations in eastern fields during the spring and summer.

Refined Oil Markets Firm

The refined oil markets are continuing firm, as evidenced by the fact last week brought a general marking up of kerosene tank wagon prices in the Middle West. Standard Oil Company of Indiana advanced all normal tank wagon prices on perfection kerosene three tenths cent per gallon, effective Tuesday, February 23, in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, North Dakota, South Dakota, and Wisconsin. Sub-normal prices were advanced correspondingly in the same area. Standard Oil Company of Nebraska effective February 23 similarly advanced kerosene



prices three tenths of a cent a gallon throughout its territory.

Tank car prices of most products continued generally unchanged during the past week, as demand held up well and absorbed the available supplies. Fuel oils continued in good demand, the increase in kerosene tank wagon prices evidenced the strength of that market. Gasoline prices were steady, and indicated that there is no great anxiety over the current seasonal additions to gasoline storage.

Pennsylvania Prices Up

Leading purchasers of Pennsylvania crudes advanced prices of all grades 10 cents a barrel effective February 24. The last previous change in the postings for that area occurred December 28, when prices were raised 12 to 15 cents a barrel. The new schedule brought the postings up to $2.67 for the Bradford district, to $2.42 for Southwest Pennsylvania lines, to $2.37 for takings in Eureka, West Virginia, lines, and to $2.22 for the Pennsylvania grade in Buckeye lines, Macksburg, Ohio. The new prices for Pennsylvania grade crudes are the highest since May 1, 1930.

Tank Car Prices Same

In most instances the tank car prices that prevailed late last week were the same as one week previously.

U. S. Motor gasoline tank car prices f. o. b. Oklahoma refineries were ranging from 4⅝ to 5⅛ cents a gallon for the third grade, 62 octane and below; from 5 to 5½ cents for the middle grade, 63 to 67 octane; and 5¾ to 6⅛ cents for the 68 to 70 octane grades.

In the Chicago market the corresponding prices were 4½ to 4⅞ cents, 5 to 5¼ cents, and 5½ to 5¾ cents.

At the refineries in East Texas the usual third grade gasoline on the market was priced commonly at 4¾ cents a gallon.

CRUDE PRICES

Complete table of prices paid for crude oil at the well in principal fields will be found on page 48 of this issue. Hereafter this schedule will appear only in the first issue of each month except when changes are announced.

Kerosene and Fuel

Kerosene prices at the Oklahoma refineries ranged last week from 4⅛ to 4⅜ cents a gallon for the 41-43 water white grade, and from 4¼ to 4½ cents for the 42-44 water white grade. Those same minimum prices prevailed in the Chicago market, but maximum prices were not as high by ⅛ cent.

In the Chicago market the No. 1 white burning oils were priced from 4 to 4⅛ cents a gallon, and the No. 1 straw from 3¾ to 4 cents. The No. 2 straw was 3⅝ to 3¾ cents, and the No. 2 dark from 3½ to 3⅝ cents. No. 3 oils were 3½ to 3⅝ cents a gallon.

Industrial consumers found the heavier oils priced at 95 cents to $1.05 a barrel for the No. 4 grade, 85 to 90 cents for the No. 5, and 82½ to 87½ cents for the No. 6 grade.

OIL DEMAND UP

Washington, D. C.—Lubricating oil consumption in December hit a new high record, but gasoline demand dropped more than 1,400,000 gallons from November, it is indicated by figures made public February 24 by the Bureau of Internal Revenue.

January collections from the gasoline tax, representing business of the preceding month, totaled $15,020,548, the bureau reported, compared with $16,483,458 in December and $14,008,584 in January, 1935.

Collections from the tax on lubricating oils were $3,535,281 against $2,541,159 in December and $1,981,240 in January of last year.

Receipts from the taxes on pipe line transportation and on processing both showed healthy increases, the former amounting to $1,019,155 against $903,580 in December and $946,130 in January of last year, and the latter totaling $109,267 against $70,114 the preceding month and $77,273 in the corresponding month of 1936.

TAX REPEAL BILL

Washington, D. C.—Repeal of the federal taxes on gasoline and lubricating oils is sought by Senator Capper of Kansas in a bill introduced in Congress February 25. Little probability is seen of favorable action on the measure, the gasoline tax being the sixth most important revenue producer, the income from this source being exceeded only by the receipts from the corporation tax, individual income tax, estate tax, liquor taxes and tobacco levies. During the calendar year 1936, the collections from the gasoline tax totaled $186,542,000 and showed an increase of more than $14,000,000 over 1935. The lubricating oil taxes also return desirable revenues, but their standing varies from month to month as they and other taxes respond to seasonal influences. The 1936 return was $28,985,500, a gain of approximately $166,000 over the preceding year.

Chicago.—Pure Oil Company plans to sell $42,000,000 of a new $100 par convertible preferred stock, which is expected to embody a dividend rate of about 4½ percent. The new stock will be offered to common stockholders.

Proceeds will be used to retire bonded and long-term debt, to retire the company's 8 percent preferred stock, and to cover capital expenditures, particularly in the refining department.

Pure Oil Company in 1936 earned net profit of $7,600,000, or about $1.60 a share on the common stock, compared with 1935 profit of $8,150,027, or $2 a common share.

Summary of Wells Completed in the United States Week Ending February 27, 1937

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1937	Total Completions this Date 1936
Alabama	1	....	....	1	.....	1	....
Arkansas	5	....	....	5	.....	9	11
California	15	11	....	4	3,012	170	129
Colorado	....	....	....	....	.....	2	....
Florida	....	....	....	....	.....	....	....
Illinois	5	1	....	4	.....	5	....
Indiana	....	....	....	....	.....	26	31
Kansas	30	22	1	7	34,218	331	172
Kentucky	....	....	....	....	.....	40	21
Louisiana	17	9	....	8	4,680	99	122
Michigan	17	9	1	7	5,144	131	103
Mississippi	....	....	....	....	.....	5	1
Montana	....	....	....	....	.....	16	16
Nebraska	....	....	....	....	.....	....	....
New Mexico	12	9	....	3	15,170	103	62
New York	....	....	....	....	.....	....	....
Ohio	12	1	7	4	2	254	333
Oklahoma	52	44	1	7	63,960	459	366
Pennsylvania	....	....	....	....	.....	7	....
Texas	276	211	6	59	296,363	2,142	1,536
Utah	....	....	....	....	.....	....	....
West Virginia	21	3	14	4	34	126	96
Wyoming	4	4	....	....	3,988	16	6
Total this week	467	324	30	113	426,571	3,942	3,004
Total last week	397	269	38	90	342,387	....	....
Total this year	3,942	2,623	377	942	3,439,915	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Feb. 27	Total this Mo.	Total this Year	Total this Date Last Year	1936 Year Total
Arkansas	2	12	12	14	103
California	26	96	262	86	1,054
Louisiana	13	56	140	157	1,107
Kansas	34	164	258	218	1,873
Michigan	15	63	137	88	762
Oklahoma	59	190	343	339	2,594
Texas	189	1,037	2,389	1,607	15,582
Total	338	1,630	3,573	2,459	23,075

PRODUCTION DOWN

Drop of 8,450 barrels from last week's peak

UNITED STATES crude oil production continued comparatively high during the past week, ended February 27, although dropping a little below the all-time peak of the previous week. The output averaged 3,277,725 barrels daily. That was 8,450 barrels a day less than in the previous week. It was 209,125 barrels a day more than the recommendation of the United States Bureau of Mines, and reflected the fact some of the leading producing states are not following the bureau's suggestions in fixing state allowables.

The decrease last week, compared with the week before, resulted from declines for Oklahoma, Kansas and California, that outweighed increases in Texas, Louisiana and New Mexico.

Oklahoma production last week was down 5,825 barrels from the previous week's daily average, at 603,000 barrels a day. That was 21,100 barrels a day more than the Bureau of Mines recommendation.

Oklahoma output dropped off 5,625 barrels to 180,625 barrels daily, and was 10,625 barrels a day above the federal allocation.

California last week declined 6,000 barrels, averaging 582,000 barrels daily, or 8,700 barrels a day more than the Bureau of Mines suggestion.

Texas showed a further small increase of 2900 barrels in averaging 1,330,500 barrels daily. That was 127,100 barrels a day more than the Bureau of Mines recommendation.

Louisiana output was up 2450 barrels at 241,750 barrels daily, which was 16,650 barrels a day more than the bureau allocation.

New Mexico showed a small increase of 200 barrels in averaging 97,400 barrels daily. That was 15,800 barrels a day more than the federal government's suggestion.

OKLAHOMA DEMAND

Buyers request 74,464 more than bureau quota

WIDE variation between the amount crude oil buyers are willing to take from Oklahoma oil fields and the total considered adequate by the United States Bureau of Mines left the Oklahoma Corporation Commission in a quandary as to the March allowable. Late Friday no order had been written.

Crude oil purchasers indicated willingness to buy 665,264 barrels of Oklahome oil daily in March when they appeared before the commission Thursday. The total is 74,464 barrels higher than recommendation of Bureau of Mines.

For Fitts, the amount wanted by purchasers totaled 91,790 barrels daily, increase of 17,208 above February allowable. The Wilcox zone at Oklahoma City drew nominations for 145,861 barrels daily, an increase of 23,777 barrels above the February allowable. In January and February the Wilcox zone failed to make its allowable, producing only 125,000 barrels daily in Januarv. Buyers asked for 20,000 barrels daily from Moore pool, an increase of 11,400 barrels daily. Nominations for Edmond was 29,672 barrels, an increase of 12,767 barrels daily. Wilcox sand wells at Billings, Crescent and Lucien were other areas from which more oil was asked.

SAME ALLOWABLE

California March output to be 551,000 barrels

Los Angeles.—The Central Committee of the Producers of California set allowable for the state at 551,000 barrels a day for March, the same figure used for the past several months. Daily production has been exceeding 580,000 barrels a day for some time, and is expected to continue to about approximate this figure.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Feb.)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING February 27	February 20
TEXAS—			
Texas Panhandle	.....	73,800	72,800
North Texas	.....	66,900	67,100
West Central Texas	.....	32,700	32,800
West Texas	.....	189,700	189,600
East Central Texas	.....	107,400	108,200
East Texas Field	.....	452,000	451,100
South Texas	.....	216,200	214,700
Texas Gulf Coast	.....	191,800	191,300
Total Texas	1,203,400	1,330,500	1,327,600
OKLAHOMA—			
Oklahoma City	.....	140,050	147,900
Seminole Area	.....	133,675	134,900
Crescent	.....	9,500	12,025
Lucien	.....	12,950	12,900
Fitts	.....	90,175	81,450
Edmund	.....	15,975	19,825
Moore	.....	9,300	8,550
Others	.....	191,375	191,275
Total Oklahoma	581,900	603,000	608,825
KANSAS—			
Ritz-Canton	.....	5,700	5,650
Chase	.....	9,950	8,925
Hollow-Nikkel	.....	3,600	3,600
Sedgwick	.....	4,700	4,650
Burrton	.....	16,075	15,950
Lorraine	.....	6,800	6,000
Russell County	.....	24,900	25,350
Silica	.....	17,450	17,325
Others	.....	91,450	98,800
Total Kansas	170,000	180,625	186,250
LOUISIANA—			
North Louisiana	.....	70,350	70,400
South Louisiana	.....	171,400	168,900
Total Louisiana	225,100	241,750	239,300
ARKANSAS	28,500	26,250	25,600
CALIFORNIA—			
Long Beach	.....	61,500	61,000
Santa Fe Springs	.....	42,500	45,000
Huntington Beach	.....	39,000	37,000
Dominguez	.....	24,000	25,500
Inglewood	.....	14,500	12,500
Ventura Avenue	.....	33,500	33,000
Seal Beach	.....	9,000	10,000
Midway-Sunset	.....	64,000	66,000
Elwood	.....	9,500	9,500
Kettleman Hills	.....	79,000	79,000
Mountain View	.....	20,500	21,000
Playa del Rey	.....	10,500	10,000
Others	.....	174,500	178,500
Total California	573,300	582,000	588,000
MOUNTAIN STATES—			
Wyoming	41,900	51,800	49,700
Montana	14,700	15,300	15,100
Colorado	4,500	4,000	3,500
Total Rocky Mountain States	61,100	71,100	68,300
NEW MEXICO	81,600	97,400	97,200
EASTERN STATES	114,300	115,200	115,300
MICHIGAN	29,400	29,900	29,800
Total United States	3,068,600	3,277,725	3,286,175

CRUDE OIL PRICE SCHEDULES

(Figures Revised to February 27, 1937)

MID-CONTINENT GRAVITY SCALE PRICES (Posted January 28, 1937)

(Some fields of Mid-Continent have flat price postings, and are shown separately.)

Gravity	Okla.-Kans.	North La.-Ark.	Rodessa, La.-Tex.	North & W. Cent. Tex.	East Cent. Tex.	Gray Co. Tex.	Carson Hutchinson Co. Tex.	[1]Conroe, Tex. Type	West Tex.-N. Mex.	[2]Gulf Coast (Tex.-La.)	[3]Some La. Gulf Areas	[4]Anahuac, Tex. Type	[5]Refugio, Tex. Type	[6]Mirando, Tex. Type
17–17.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	*$0.90	.....	.....	.....	.....
18–18.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.92	.....	.....	.....	.....
19–19.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.94	.....	.....	.....	.....
20–20.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.96	*$0.90	.....	*$0.95	*$0.90
21–21.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.98	.93	.....	.98	.93
22–22.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.01	.96	.....	1.01	.96
23–23.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.99	.....	1.04	.99
24–24.9	*$0.98	*$0.90	*$0.93	*$0.88	.....	.....	.....	.....	.....	1.07	1.02	.....	1.07	1.02
25–25.9	1.00	.92	.95	.90	.....	.....	.....	.....	*$0.78	1.10	1.05	.....	1.10	1.05
26–26.9	1.02	.94	.97	.92	.....	.....	.....	.....	.80	1.13	1.08	.....	1.13	1.08
27–27.9	1.04	.96	.99	.94	.....	.....	.....	.....	.82	1.15	1.10	.....	1.15	1.10
28–28.9	1.06	.98	1.01	.96	*$1.03	.....	.....	*$1.20	.84	1.17	1.12	.....	1.17	1.12
29–29.9	1.08	1.00	1.03	.98	1.05	.....	.....	1.22	.86	1.19	1.14	.....	1.19	1.14
30–30.9	1.10	1.02	1.05	1.00	1.07	.....	.....	1.24	.88	1.21	1.16	$1.16	1.21	1.16
31–31.9	1.12	1.04	1.07	1.02	1.09	.....	.....	1.26	.90	1.23	1.18	1.18	1.23	1.18
32–32.9	1.14	1.06	1.09	1.04	1.11	.....	.....	1.28	.92	1.25	1.20	1.20	1.25	1.20
33–33.9	1.16	1.08	1.11	1.06	1.13	.....	.....	1.30	.94	1.27	1.22	1.22	1.27	1.22
34–34.9	1.18	1.10	1.13	1.08	1.15	*$0.96	*$0.91	1.32	.96	1.29	1.24	1.24	1.29	1.24
35–35.9	1.20	1.12	1.15	1.10	1.17	.98	.93	1.34	.98	1.31	1.26	1.26	1.31	1.26
36–36.9	1.22	1.14	1.17	1.12	1.19	1.00	.95	1.36	1.00	1.33	1.28	1.28	1.33	1.28
37–37.9	1.24	1.16	1.19	1.14	1.21	1.02	.97	1.38	1.02	1.35	1.30	1.30	1.35	1.30
38–38.9	1.26	1.18	1.21	1.16	1.23	1.04	.99	1.40	1.04	1.37	1.32	1.32	1.37	1.32
39–39.9	1.28	1.20	1.23	1.18	1.25	1.06	1.01	1.42	1.06	1.39	1.34	1.34	1.39	1.34
40 & Above	1.30	1.22	1.25	1.20	1.27	1.08	1.03	1.44	1.08	1.41	1.36	1.36	1.41	1.36

* Minimum price and applies also to purchases of lower gravity.

[1] Conroe, Tomball, Satsuma, Raccoon Bend Deep fields.

[2] Upper Texas Gulf Coast, including Goose Creek, Spindle Top, etc., and some fields of Louisiana Gulf Coast, including Black Bayou, White Castle, Vinton, Hackberry, etc.

[3] Choctaw, Darrow, Lockport, Iowa (Magnolia posting), Cameron Meadows, etc.

[4] Anahuac, Dickinson, Flour Bluff, Turtle Bay.

[5] Lower Texas Gulf Coast, including Refugio, Saxet, etc.

[6] Duval, Jim Hogg, Webb, and Zapata Counties; Heyser, Placedo fields.

Mid-Continent Flat Prices

	Flat Price	Date Posted
Arkansas:		
Smackover	$0.90	1–28–37
Louisiana:		
Garden Island	1.37	1–28–37
Lafitte	1.24	1–28–37
Texas:		
East Texas	1.27	1–28–37
Talco	.73	1–28–37
Livingston, Cleveland	1.27	1–28–37
Hardin	1.15	1–28–37
Van	1.10	1–28–37
Pettus	1.37	1–28–37
Pecos County	.91	1–28–37
Pecos Shallow	.81	1–28–37
Luling	1.00	1–28–37
Lytton Springs	1.12	1–28–37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09	1–28–37

Michigan Prices

Central Michigan	$1.42	1–29–37

Middle West Prices

Lima	$1.25	1–28–37
Illinois	1.35	1–28–37
Princeton	1.35	1–28–37
Western Kentucky	1.40	1–28–37

Rocky Mountain States Prices

	Flat Price	Date Posted
Elk Basin	$1.30	1–28–37
Frannie Light	.70	11– 4–36
Frannie Heavy	.62	11– 4–36
Grass Creek Light	1.30	1–28–37
Grass Creek Heavy	.62	11– 4–36
Hamilton Dome	.57	11– 4–36
Big Muddy	1.23	1–28–37
Rock Creek	1.20½	1–28–37
Sunburst	1.20	1–28–37
Lance Creek	.97	1–28–37
Osage	1.08	.....
Cat Creek	1.07	8–25–33
Cut Bank	1.35	6– 3–36
Pondera	1.05	9–29–33
Hogback	1.00	9– 8–33

Pennsylvania Prices

Bradford-National Transit	$2.67	2–24–37
Sw. Pa. Pipe Line	2.42	2–24–37
Eureka Pipe Line	2.37	2–24–37
Buckeye Pipe Line	2.22	2–24–37
Corning Grade	1.32	12–18–36

Canada Prices

Petrolia	$2.10	9– 9–33
Oil Springs	2.17	9– 9–33

Mexico Prices

F.O.B. Tampico; net; U.S. Currency, buyer pays tax	$1.07	.....

Major Price Changes

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 18
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut +4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up +28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up +9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up 15
December 28, 1936	Up 12	.....	.....
January 28, 1937	.....	Up 12	.....
February 24, 1937	Up 10	.....	.....

+ Signal Hill 26 gravity. ‡ Seal Beach 26 gravity.

Crude Production Taxes

Oklahoma—Five percent of gross value less royalty interest.

Texas—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

PRICE INVESTIGATION
Too little profit from West Texas crude

Austin.—Refiners of Texas crude should make greater profit out of oil produced in West Texas than they do from East Texas crude, according to Dr. W. L. Nelson, professor of refining at Tulsa University.

This was the text of the testimony presented last week before a joint legislative committee investigating the difference in price paid for East Texas and West Texas oils. A resolution had been passed by the Legislature in which it was alleged that there is discrimination in fixing the price paid for West Texas oil.

Nelson, the only witness who appeared, confined his testimony to the technical phases of refining as they affect the price of crude oil. He pointed out that most prices based on gravity are intended to apply in a manner that will result in the highest price being paid for oil which produces the greatest amount of lubricant. He declared that this practice should be abandoned since the production of gasoline with a high octane rating had become the most profitable source of income.

This better gasoline, Nelson said, which is essential for use in modern high compression automotive engines, can best be produced from lower gravity crudes such as those found in West Texas, despite the fact that they may contain high sulphur content.

Nelson explained that the profit came from the less expensive cracking process which can be used in refining West Texas oils.

He presented charts to show the difference in these refining processes.

Nelson presented a table showing that under present prices a refinery should make 15.7 cents per barrel more from processing Yates crude than he makes from processing East Texas crude, and that there is 13.1 cents more profit per barrel in Sayre crude than there is in East Texas crude.

Figures, Costs, Item	East Texas	Yates (Sour)	Sayre (Sweet)
Cost of Crude, per barrel	$1.27	$ .91	$1.00
Transportation and Gathering	.175	.91	.325
Refining	.538	.471	.487
Total value of products	2.10	1.98	2.06
Profits per barrel	.111	.274	.248

Nelson explained that the figures above were not based on results obtained at any particular refinery, but that they were determined through a formula which he had developed to determine proper yield from certain oils. He told the committee that he had been for years employed as a consultant in a refinery, construction and refining processing, and that he was frequently called upon to determine such yield and to see that the operating efficiency of the plant was high enough to produce these results.

Nelson appeared for the West Texas Land & Oil Producers Association.

Because of the technical trend of the testimony, major oil companies purchasing in the area asked that the committee recess further hearings until Nelson's testimony could be studied and some evidence presented that would be of a technical nature.

The committee has recessed its hearing until March 9, at which time representatives of The Texas Company and Shell Petroleum Corporation have indicated that they will appear. Although no statement was received from Humble Oil & Refining Company, committee members announced that they desired to hear from this company, which is probably the largest purchaser in the West Texas area.

OIL-WORLD EXPOSITION
Plans further along than had been expected

Houston.—"We are already further along with our plans for the Oil-World Exposition to be held in Houston October 11-16 than we had expected to be next July," says John R. Suman, president of the exposition.

Ground floor space in the main exposition building has been contracted for, and to take care of further requests for space, additional exposition facilities are being arranged in a room 35 x 400 feet, just off the main exposition room. Negotiations are under way between the exposition and the City of Houston for additional outside space to the extent of two city blocks which will be made available for exhibitors when negotiations are completed.

"There is absolutely no question as to the success of the exposition," continued Suman. "The main exposition hall, now under construction especially for expositions, is one of the largest in the country, but had it been twice as large I believe that every foot of space in it would have been sold.

"Plans are being made for educational programs of particular interest to the large number of oil men from the United States and abroad who will attend the exposition.

"Incidentally, construction work on the $1,328,000 exposition hall in which the exposition will be held is ahead of schedule."

CALIFORNIA CRUDE OIL PRICES (Posted February 26, 1936).

(All gravities above those quoted take highest prices of that field.)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	$.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	89	.79	.88	.78	.....	.77	87	.86	78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1.02	.95	....	.89	.99	.86	.....	.88	1 01	.98	.90	83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1 02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1 10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
31-31.9	....	.....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1 09	1 29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27	....	1.19			1.14	1.25	1.16	.....	1.13	1.34	...	...	....
33-33.9	....	....	....	....	....	....	1.32	$.128				1.18	1.28	1.20	.....	1.17	1.38	...	...	....
34-34.9	....	....	....	....	....	....	1.37	1.32	...	1 23	....	1.22	1.32	1.25	.....	1.26	.....	....	..	....
35-35.9	....	....	....	....	....	....	1.42	1.35	...	1.27	....	1.25	....	1.29	.....	...	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	...	..	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1 35	....	1.32	....	1.37	.....	....	....	..	..	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1 39	....	1.36	....	1.42	.....	....	.....	...	...	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	...	....	....
40-40.9	....	....	....	....	....	....	1.66	...	....	...	....	1.43	....	.....	.....	....	.....	...	....	

Fitts Enhanced

CROMWELL SAND PRODUCES AND WELL SOUTH OF FAULT SHOWS

WEEKLY STAFF REPORT

Tulsa.—Commercial production from the Cromwell sand and indications of Hunton lime production across the major fault southeast of the pool marked development of the Fitts pool of Pontotoc County last week. The Cromwell or Union Valley sand has been established as productive over a large part of the Fitts pool but previously wells have been carried deeper to get the larger output of the lower limes and sands. Indications of production in the Hunton lime across the major fault may mean an extension of the Jesse pool or it may be that a small pool exists between Jesse and Fitts.

There also was an extension of the North Bethel pool of Seminole County and another Wilcox sand producer for the Billings pool of Lincoln County.

Fitts Cromwell Sand Well

The Cromwell sand producer at Fitts is Woodruff 5-A, owned by E. H. Moore, Inc., NEc SE 29-2n-7e, which drilled in the formation at 2344 feet. The first show of oil was found between 2375 and 2385 feet, and the hole was carried to 2510 feet. On early tests the well flowed at the rate of 63 barrels an hour through tubing.

The Cromwell sand is due to draw much drilling in Fitts, as it is known to be productive over a large part of the area now proven.

Well South of Fault

The well south of the major fault is Muse 1, SW NE SE 33-2n-7e, which is waiting on cement to set before making a production test of the Hunton lime. Muse 1 is three quarters of a mile from the edge of the main part of the Fitts pool as it has been defined by the fault. Two miles farther southeast is the Jesse pool. Muse 1 was drilled two feet into the Sylvan shale to a total depth of 4183 feet. The top of the Hunton lime had been found at 3876 feet. A core from 4165 to 4175 feet showed two and one half feet of saturation. The showing came from the Oolitic member of the Hunton, the best producing part of the formation in the Fitts field proper.

Casing was run to 3868 feet, and after 2½-inch tubing had been set at 4166 feet the well cleaned itself with gas. In the next hour it flowed 1½ barrels and made a barrel an hour later on gas lift. It is making 1,000,000 cubic feet of gas. The hole will be acidized or drilled deeper.

North Bethel Extended

Wrightsman Oil Company's May 3, NE SW SW 25-10n-7e, extended the North Bethel pool of Seminole County one location north last week when it flowed 150 to 200 barrels of oil an hour through casing. Potential for 24 hours was placed at 1547 barrels. It produced from 3629 feet in the Cromwell sand, topped at 3623 feet. Location has been cleared for May 4, SWc 25-10n-7e.

In Lincoln County, Skelly Oil Company's Spears 1, SEc NE 20-17n-3e, south of Perkins in Lincoln County, topped second Wilcox sand at 4622 feet and drilled to 4648 feet. The well was cemented back to 4600 feet and the plug drilled to 4632 feet. It was perforated from 4620 to 4624 feet, again between 4614 and 4618½ feet, and a third time between 4622 and 4625½ feet. Following the last perforation, the hole filled 350 feet with water. It is being cemented back in order to test upper sands.

Shell Petroleum Corporation's Guthrie 1, CNW SW 31-21n-2w, in the North Lucien pool of Noble County, drilled to 5370 feet in the Wilcox sand and got a good show of oil. A core to 5380 feet in the Wilcox sand brought another good show.

Blackstock Oil & Gas Company's Moody 5-A, NE SW SW 23-2n-7e, in the Fitts field of Pontotoc County, topped the Hunton lime at 3517 feet and after drilling to 3885 feet, the total depth, was acidized with 10,000 gallons. The well then flowed 668 barrels of oil the first hour through casing, and 74 barrels of oil through casing and was shut in.

Sinclair Prairie Oil Company's Wooley 16-B, NEc SW 22-2n-7e, topped the Hunton lime at 3672 feet and drilled to 3775 feet where it was acidized with 10,000 gallons. The well then flowed 207 barrels of oil the first hour through tubing and 356 barrels of oil the second hour through casing, and was shut in for potential.

Stanolind Oil & Gas Company's Harden 10, SE NE NE 30-2n-7e, was acidized with 6000 gallons and flowed 391 barrels of oil in one hour through casing. The well was shut in to take potential.

Amerada Petroleum Corporation's Wooley 6, SE NE SE 21-2n-7e, drilled to 4374 feet and was acidized with 15,000 gallons. The well flowed 549 barrels of oil the first hour through casing and 30 minutes through tubing. It was shut in for potential.

Magnolia Petroleum Company's Simpson 15, SE NE NE 21-2n-7e, topped the Hunton lime at 3399 feet and topped the Sylvan shale at 3673 feet. It was acidized with 10,000 gallons and flowed 338 barrels of oil in one hour through casing and was shut in to take potential.

Shell Petroleum Corporation and Phillips Petroleum Company's Hackett 1, NWc NE SE 21-23n-2w, in the Billings pool of Noble County, made a potential of 4032 barrels of oil and had 4,500,000 cubic feet of gas from a total depth of 4333 feet in the second Wilcox sand. The well flowed 672 barrels of oil during the last four hours of the test, establishing a basis for the potential.

Abandon Test

WILCOX SAND FOUND TO BE DRY NEAR NORMAN

Oklahoma City.—The Oklahoma City sector spent a quiet week with only a few locations reported, and one disappointing well being abandoned in Cleveland County.

The failure was Helmerich & Payne Inc.'s Glenn 1, C NW NE 6-8n-1w, southeast of Norman in Cleveland County. The well was being abandoned at 7584 feet in the Wilcox sand.

Nearly 30 tests were busy in the Oklahoma City field proper, and a few of the wells were given new potentials. British American Oil Producing Company's Francis Heights 2, at the west edge of the capital, and north of Northeast Twenty-Third Street, in Section 22-12n-3w, was given a new potential of 819 barrels of oil, producing from 6495 feet.

Between Twenty-Third and Thirty-Sixth streets, Anderson Prichard Oil Corporation's Levi 1, flowed 73 barrels of oil in 24 hours from the Dolomite. It was to be allowed to flow freely for a short time, following which the hole would be cleaned.

The Texas Company's State 1, SEc NE 36-14n-4w, in the Edmond pool of Oklahoma County, exhausted the salt water at a plug-back depth of 6575 feet, and bailed down. The well then flowed 230 barrels of oil in 14 hours, and the water was being rapidly lowered.

Extend Edmond Field

The pool was extended ½ mile south and ⅜ mile south of production on the west side of the field last week by Amerada Petroleum Corporation's

Biershenk 1, NEc 1-13n-4w, which flowed 735 barrels of oil in 21½ hours following acidization in the Simpson sand at 6611 feet.

An application is before the Oklahoma Corporation Commission, submitted by Shell Petroleum Corporation, for reclassification of the North Lucien pool, which is in both Garfield and Noble counties. The pool, at present in Class D, would conform to a series of rules and regulations suggested by Shell if changed to Class C. These suggested rules include such points as a 24-hour shut-in period before potentials; bottom-hole pressure tests at less than 4100 feet; tubing limited to 2½-inch; bottom of tubing no higher than 300 feet from the total depth; 6-hour potential period; gas readings; and a minimum allowable of 100 barrels of oil per day from all wells in the pool. The hearing is set for March 10.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Samedan Oil, Higgens "A" 15, se se nw 7-2s-2w	42	2625
Sun Oil, Mullin "B" 34, se nw sw 3-4s-3w	12	1035
Kewanee O&G, Ott 2, ne sw ne se 4-4s-3w (otd 1078)	5	1093
Carter Oil, Ward 39 se ne nw 6-4s 3w	43	1139
Kewanee O&G, Ferguson 8, ne se nw 6-4s-3w	76	1149
CLEVELAND COUNTY—		
Carter, Walker 2, nw ne sw 27-10n-2w	¶38½ & 26,448	7323
COAL COUNTY—		
Continental, Kirby 1, sw se sw 23-1n-8e	*	4690
Breedlove 1, nw sw sw 24-1n-8e	*	6054
CREEK COUNTY—		
Wood Oil, Deere 1-A, cnw sw 7-17n-7e	75	2434
Curtis Oil, Larrimore 1, sw se nw 10-19n-9e	50	2137
Johnson Oil Ref., Flinchin 4, csl ne sw 11-19n-9e	20	1186
GARVIN COUNTY—		
Cox & Hammon, Davis 3, se nw se 32-1n-3w	120	2797
Skelly, Gross 2, ne ne sw 32-1n-3w	187	2370
Wrightsman, Yates 1, sw nw sw 33-1n-3w (pb 2600)	67	2720
HUGHES COUNTY—		
Manahan Oil, Oliphant "E" 7, sw sw nw 1-9n-8e	377	1723
NOBLE COUNTY—		
Phillips & Shell, McCaughtry 5, se sw ne 21-23n-2w	¶4 & 3026	4328
OKFUSKEE COUNTY—		
Blackwell, Dolton 15, se sw ne 36-10n-8e	225	1733
Arkansas Royalty, Fisher 5, nw nw se 18-10n-9e	271	1900
Parsons 3, ne sw ne 18-10n-9e	245	1882
Sinclair Prairie, Fisher 3, sw sw sw 19-10n-9e	315	1819
Wells et al's Clark 3 se ne nw 11-10n-11e	*	2460
Deep Rock Oil, Palmer 3, sw se se 23-12n-11e	101	2628
OKLAHOMA COUNTY—		
Sunray & Phillips, Harn 4, sw ne nw 27-12n-3w	1543	6490
OKMULGEE COUNTY—		
Vandeventer, Jefferson 1, cnl se ne 33-16n-13e	¶8	1510
OSAGE COUNTY—		
E. O. Platter 8, ce¼ se nw 30-22n-9e (pb 1000)	1	1367
Lewis Prod. 3, se ne sw 28-24n-7e	113	2649
PAWNEE COUNTY—		
Tuttle O&G, Hagen 1, ne nw sw 36-20n-7e	*	2811
PAYNE COUNTY—		
Deep Rock et al, Echo Hawk 1, se nw ne 9-18n-5e (otd 2871)	147	3595
PONTOTOC COUNTY—		
Okla. Oil Corp., Bruno 3, ne se ne 25-7n-4e (otd 4235) (pb 4300)	5	4380
Burke-Greis, Chambers 2, nw ne nw 36-2n-6e (pb 3825)	5087	4419

SOUTH AREA QUIET

Ardmore.—Most of the interesting deep tests in southern Oklahoma were active last week. One completion was reported from the extreme western edge of the state, a gasser in Beckham County.

The completion was Carter Oil Company's Robertson 1, C SW SW 2-9n-25w, north of Erick in Beckham County, which drilled to 3925 feet in water sand. At 3920 feet the hole had 1800 feet of water in the hole, and operators ran casing to shut it off. After drilling ahead to 3997 feet, the well was plugged back to 3400 feet and was completing as a gas well.

Sinclair Prairie Oil Company and Power Oil Company's Lancaster Trust Company 1, C SW NE 10-1s-2e, near Davis in Murray County, topped Viola lime at 3398 feet and cored from 3415 to 3426 feet. The recovery consisted of 8 feet of lime with a stain of oil. The well was drilled to 3438 feet where drill pipe stuck in the hole.

Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, in the Oswalt area of Love County, was pulling 2½-inch tubing. The crew was preparing to continue testing for a water shutoff at 6927 feet.

In the Tussy area of Garvin County, Carter Oil Company's Wright 1, NEc SE 32-1n-3w, had salt water showing in the hole after perforating casing. The shots were made between 2629 and 2633 feet. This is the second test to be made of oil sands since casing was cemented on the bottom at 2672 feet more than two weeks ago.

Another deep test is planned for the Ardmore area as Helmerich & Payne made locaion for Wolverton 1, SE NE NW 21-3s-1w, to be drilled to between 4500 and 6000 feet. The new test is 2 miles north and 1½ miles west of Newport, in Carter County, and approximately 12 miles due northwest of Ardmore.

Company, Well and Location	Init. Prod. Bbls.	Depth
Magnolia, Morrin 2, sw ne se 20-2n-7e	¶1 & 889	4220
Mid-Continent, McKoy 5, se sw sw 20-2n-7e	¶4 & 1059	4353
Amerada, Wooley 5, nw se se 21-2n-7e	¶3½ & 3208	4370
Magnolia, Norris 9, ne sw se 21-2n-7e	¶4½ & 4136	3859
Moore, Burris 4, nw nw se 22-2n-7e	¶3 & 3000	3764
Sinclair Prairie, Moody 3-A, se se ne 22-2n-7e	lcn.	abd.
Wooley "A" 13, se nw sw 22-2n-7e	¶1¼ & 1038	4370
Skelly, Metropolitan Life 6, se se sw 23-2n-7e	¶1 & 543	4380
Carter, Smith 11, nw ne sw 28-2n-7e	¶1½ & 598	3464
Mabee Oil, G. Smith 1-A, sw sw nw 28-2n-7e	1229	3529
Magnolia, Simpson 16, ne se ne 29-2n-7e	¶3 & 2437	3629
Moore, Schauers 2, sw sw nw 29-2n-7e (pb 4350)	2977	4395
Carter, Richards 23, ne ne se 30-2n-7e	25	3597
Loyal Drlg., Hardin 6-A, se nw nw 30-2n-7e	¶2½ & 2959	3530
Hager-Sledge, Haggard 1-A, nw ne nw 4-4n-5e	30	1595
Sinclair Prairie, Snow 2, ne sw sw 28-5n-8e	40	806
POTTAWATOMIE COUNTY—		
Elbar Oil, Wyatt 4, nw ne nw 10-7n-4e	71	3994
Falcon, Vinson 1, ne se ne 13-7n-4e (pb 4080)	10	4123
SEMINOLE COUNTY—		
Okla. Oil Corp., Fleet 2-A, ne nw se 13-6n-7e	*	2842
Marsdun Nulcussy 1 nw nw nw 5-7n-7e	*	3258
Carter et al, Simpson 1, sw sw ne 7-8n-8e	*	4505
Gulf, Myrtle 1, sw sw se 26-11n-6e	1010	4117
Texas, W E Mayhue 7, nw ne nw 14-9n-6e	100	4145

*Failures; †Junked; Million cu. ft. gas.

ACTIVITY IS UP

Tulsa.—Field activity in Oklahoma set a higher record in both completions and first reports as compared with the week previous. There were 53 completions reported against 37 for the week previous. Of the completions, 44 were oil wells with initial production of 63,960 barrels, 1 gas well, 7 dry holes, and 1 abandoned location.

Locations were staked for 59 oil wells against 52 for the week previous. Pontotoc County continued to lead in wells started with 15 for the week. Osage County had 10. There were 7 in Okfuskee County, 5 in Seminole County, 4 in Noble County, 3 each in Cleveland and Okmulgee counties, 2 in Creek County, and 1 each for Carter, Kiowa, Logan, Muskogee, Pottawatomie and Stephens counties.

TO DRILL 16 WELLS

Tulsa.—Phillips Petroleum Company and Keener Oil & Gas Company have announced plans for drilling 16 waterflood wells in the area near Dewey, in Washington County, Oklahoma.

The wells will be drilled on a 40-acre tract centering in Township 27n, Range 13e, and will replace 25 old wells that have been drilled there. A shallow sand, found at around 200 feet is the object of the test, with settled production reported to be ¼ barrel per well. It is thought flooding will increase the flow to some 30 barrels of oil daily.

GRADUATED DECLINE

Tulsa.—Oklahoma Corporation Commission has selected graduated decline for determining potentials of Oklahoma City Wilcox zone wells as recommended by majority of operators at hearing February 16. Decline will be 70 percent of potential of wells now rated at 18,000 barrels and will scale downward for smaller reductions on 100-barrel steps. Minimum output for field will be raised from 200 barrels to 250 barrels. New potentials will be effective March 1 and for six months.

MARTIAL LAW

Oklahoma City.—Martial law will be the answer of the state to an effort to halt drilling of wells on state land in the parkway south of the Capitol building, according to Governor E. W. Marland. Lloyd W. Judd, Lincoln Terrace property owner, filed injunction in Federal Court to stop the drilling. The governor said any court interference would be fought with calling of the National Guard.

Austin.—A bill has been introduced in the Texas Legislature which provides that any royalty not rendered for taxation shall be deemed forfeited.

New Sumner Field

HOLE IS FILLING UP FROM UNIDENTIFIED FORMATION

WEEKLY STAFF REPORT

Wichita.—Another pool for Sumner County with production from a formation not previously productive in that part of the state is indicated in development of Patton Drilling Company's Rogers 1, SW NW SW 35-31s-2w, west of the Wellington pool.

In Vinton County, northwest of Vinton, Earl Wakefield's Knapp 1, SWc NW 2-34s-5e gives indication of opening a pool. There was an extension for the Otis-Albert area of Rush County.

The Sumner County well was drilled to 2050 feet, where the hole filled partly with oil. The formation has not been identified, but early studies indicate it is either the Topeka lime or the Howard lime, formations which produce in other parts of the state. Further testing will be done.

Cowley Wildcat Producing

Two miles northwest of Vinton in Cowley County, at Earl Wakefield's Knapp 1, SWc NW 2-34s-5e. The well made 12 barrels of oil in 15 hours from the chat at 3142 feet. After being allowed to set for one and one-half hours, the fluid level was bailed to the bottom of the hole.

Extending the Otis-Albert area one and one-fourth miles to the northeast, Schermerhorn Oil & Gas Company and Morgan & Flynn et al's Brack 1, NEc 21-18s-15w, had the Otis sand from 3461 to 3509 feet and made 45,000,000 cubic feet of gas. It was being killed to deepen to the oil producing horizon. The area is in Rush County.

Other developments were rapidly shaping up in the same general district. Carter Oil Company's Schroeder 1, NW SW SE 23-18s-16w, had the Otis sand from 3470 to 3539 feet, and on the first potential test, made 400 barrels of oil and 35,000,000 cubic feet of gas a day. It will be deepened to the LaMotte sand. Rig was being built for Schroeder 2, SEc 23-18s-16w.

Morgan & Flynn's Koril 1-B, NWc SW 23-18s-16w, made 1525 barrels of oil in 18 hours on a new potential test between 3511 and 3539 feet, and was reported as averaging 83 barrels of oil daily. Their Schroeder 1, SWc NW SE 23-18s-16w, on a new potential test, made 1199 barrels of oil and 35,000,000 cubic feet of gas from between 3473 and 3528 feet.

Herndon Drilling Company et al's Arnold 1, NWc 30-18s-15w, had the Otis sand from 3497 to 3534 feet, and made 18,000,000 cubic feet of gas was spraying an estimated 100 barrels of oil. Operators were cleaning out about 25 feet of caving hole so as to make a test. It extends the Otis South area one mile to the east, and the Albert proper area one mile to the east.

In Barton County, James A. Brouk et al's Baker 1, NE SE SW 16-17s-13w, north of Hoisington, was drilling deeper after topping the Siliceous lime at 3454 feet and encountering sulphur water at 3475 feet. At last reports the well was drilling ahead below 3478 feet.

Indian Territory Illuminating Oil Company's Hogan 1, NWc SW 34-16s-13w, a west offset to the discovery producer in the Ainsworth pool, and drilled by Armer and Vernon Oil & Gas Company, was completed for 1386 barrels of oil from the Siliceous lime at 3372 feet. The discovery well made a potential of 1241 barrels of oil.

Skelly Oil Company is reported as the first company to drill out a lease in the Bloomer pool of Barton County, the operation being completed at its Bloomer 8, SE NW SE 36-17s-11w. The well made 2540 barrels of oil from the Siliceous lime at 3252 feet following acidization.

The eight wells on the 80-acre lease, which is supposedly the best acreage in the field, have a combined potential of 21,351 barrels of oil, an average of 2669 barrels of oil per well.

The Texas Company's McLean 1, located in Section 25-17s-11w, at the north end of the pool, was completed for 343 barrels of oil from the Siliceous lime at 3322 feet, following acid treatment.

Small Silica Well

Stanolind Oil & Gas Company's Burmeister 2, NEc SW 33-19s-11w, in the Barton County portion of the Silica pool, made only one-half barrel of oil an hour from the Siliceous lime at 3342 feet, and was preparing to swab at last reports. The Burmeister is west of production in the pool.

The same company's Riesman 1, SWc NW 34-16s-13w, a northeast diagonal offset to the discovery producer in the Ainsworth pool, was swabbing about 45 barrels of oil an hour from the Siliceous lime at a total depth of 3377 feet.

Skelly Oil Company's Neidens 2, SWc NE 32-15s-13w, the farthest south test in the Trapp pool of Russell County, topped the Siliceous lime at 3330 feet and recovered a one-foot core saturated with oil. The well, which was preparing to drill in early in the week, is a south offset to Neidens 1, which extended production two locations east in the pool. Location has been staked for Neidens 3 as an east offset to the No. 1 well.

National Refining Company's West Reinhardt 1, NEc NW 36-14s-15w, at the south end of the Harbaugh pool, was completed for 2489 barrels of oil natural from the Gorham sand at 3196 feet. It is one of the biggest wells in the area.

Skelly Oil Company's Dumler 2, SE SW NW 1-14s-15w, an east offset to the discovery producer in the Dumler pool of Russell County, made 382 barrels of oil in four hours from the Topeka lime at 2775½ feet, and was shut in until pipe line facilities could be had. The discovery well had a potential of 1973 barrels of oil.

Gulf Oil Corporation's Walters 1, SW NW SE 2-12s-18w, an east offset to the discovery producer in the Walters pool of Ellis County, was completed for a potential of 1557 barrels of oil from the Siliceous lime at a total depth of 3619½ feet.

Magnolia Petroleum Company's Wiese 1, SEc NE 8-26s-4w, on the west side of the Hilger pool of Reno County, was being acidized for the fourth

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Texas, F. Bloomer 5, sw se ne 36-17s-11w	2500	3266
Darby Pet., Kultgeon 5, nw nw nw 16-16s-12w	149	3352
Republic Oil, McLean 3, nw nw se 25-17s-11w	354	3338
Skelly, Bloomer 7, se se ne 36-17s-11w	2840	3242
Helmerich & Payne, Krause 1, cse 18-18s-15w	¶36	3513
COWLEY COUNTY—		
Roth & Faurot, Brandt 7, sw se ne 12-32s-4e	*	3526
Fountain & Piggott, Rush 1, ne ne sw 25-34s-6e	*	3122
EDWARDS COUNTY—		
Stanolind, Donovan 1, cse se 14-26s-18w	*	4984
ELLSWORTH COUNTY—		
Continental & Empire, Rolfe 1, sw sw ne 34-17s-8w	1107	3256
Carter et al, Ogden 7, sw nw sw 26-17s-9w	1339	3165
HARVEY COUNTY—		
Shell, Neufeldt 4, se se nw 8-22s-3w	488	3534
McPHERSON COUNTY—		
Ohio Oil, Whitwright 4, se se sw 30-19s-1w	220	2970
Reeves & Morine, Peterson 1, nw nw se 24-19s-3w	lcn.	abd.
RENO COUNTY—		
Texas, S. Collins 8, sw sw nw 16-24s-4w	504	3360
Carlock et al, Brown 1, nw nw ne 32-22s-10w	*	3705
RICE COUNTY—		
Gulf -Oil, Stolz 7, nw se nw 32-19s-10w	877	3283
Stolz Jr, 8, se nw nw 5-20s-10w	1452	3301
Magnolia, Bayer 5, ne nw nw 7-20s-10w	1409	3293
Atlantic Ref., Patton 1, ne nw ne 7-21s-7w	834	3328
Grace Oil, Gossman 1, se se ne 8-21s-7w	1323	3378
Darby Pet., Johnson 1, se se sw 10-21s-7w (otd 3369)	6833	3381
Derby Oil, Theede 1, ne nw nw 14-21s-7w	1433	3393
Carey et al, Strange 1, nw sw nw 16-2s-7w	2134	3378
RUSH COUNTY—		
Morgan & Flynn, Moore 1, nw nw nw 25-18s-16w	108	3555
RUSSELL COUNTY—		
Paxton & Miller, Mills 1, ne ne nw 10-14s-15w	*	3368
Darby Pet., Dumler "B" 2, sw sw nw 11-14s-15w	584	3274
W. I. Southern, Inc., Sellens Heirs "A" 5, nw se sw 30-15s-13w	2589	3276
Michaelis 3, se ne nw 31-15s-13w	2675	3277
Coralena Oil, Boomhower 5, se ne nw 32-15s-13w	2466	3332
SUMNER COUNTY—		
Dorrance et al, Caldwell 1, ne se ne 22-32s-2e	*	3065
Empire, Hoffman 1, nw nw sw 27-34s-1e	*	4086

*Failures; †Junked; Million cu. ft. gas.

time, the last treatment at 4066 feet in the Viola lime. The well appeared to be good for from 15 to 20 barrels of oil a day, following the three previous acid treatments.

Retest Aids Bemis Well

British American Oil Producing Company's Bemis 1 NWc SW 22-11s-17w, in the Bemis area of Ellis County, on a retest, pumped 2916 barrels of oil. Originally, the well got a potential of 2100 barrels of oil. Bemis 2, SW NW SW 22-11s-17w, had a potential of 2473 barrels of oil, and Nemis 3, NW SW SW 22-11s-17w, made a potential of 2303 barrels of oil.

D. R. Buchanan et al's Wenke 1, NEc NW SE 18-20s-10w, a southwest diagonal offset to the discovery producer in the Mantel pool of Rice County, was completed for 137 barrels of oil from the Siliceous lime at 3310 feet The discovery well had a potential of 418 barrels of oil.

A dry hole was reported from Chatauqua County last week. It was W. B. Fly et al's Morris 1, SWc NW SW 6-32s-12e, south of Oak Valley. It was dry and abandoned in the Siliceous lime.

Western Kansas Oil & Refining Company et al's Keagy 1, E½ SW 15-35s-1e, on the east side of the old Goodrich pool of Sedgwick County, was completed for 427 barrels of oil natural in 24 hours from the Viola lime at 3379 feet.

Ohio Oil Company's Decker 10, SE NE SE 20-21s-1w, in the Graber pool of McPherson County, appears to be good for 1600 barrels of oil daily from the Hunton lime at 3302 feet. It started pumping at the rate of 75 barrels of oil an hour.

KANSAS WORK DOWN

Wichita.—Field work in Kansas dropped back to its winter pace last week when only 31 wells were completed and 34 new tests started. The week previous brought 51 completions and 55 locations.

Completions last week included 22 oil wells with 34,218 barrels of initial output, 1 gas well, 7 dry holes, and 1 abandoned location.

The 34 locations were divided by counties as: Rice 8; Reno 4; Russell 3; Chatauqua, Ellis, McPherson and Sedgwick 2 each; Barton, Butler, Coffey, Ellsworth, Harvey, Haskell, Morton and Woodson 1 each.

Ponca City.—Continental Oil Company was host to 87 retail dealers here last week, the first meeting of its kind held here, with dealer "guests" from 23 states in attendance. Production and refining processes were shown the visitors, and a trip through the company properties in the Oklahoma City field ended the week. The group was augmented by division and regional sales managers who met during the previous week.

Encounters Water

SECOND VACUUM AREA WELL WILL PLUG BACK FOR SHOT

WEEKLY STAFF REPORT

Hobbs, N. M.—Encountering sulphur water in lower lime zone at 4902-05 feet, Magnolia Petroleum Company's State 1-G, NW NW NE 24-17s-34e, second test for the Vacuum area, Lea County, has been plugged back to 4775 feet, or 756 feet sub sea, for nitro shot. It swabbed 25 to 35 barrels of oil daily from saturated lime topped at 4459 feet, with additional porosity logged to 4656 feet. The lower section of the lime did not carry saturation, although the company's State-Vacuum 1, a flowing producer located about ¼-mile to the northwest, logged pay increase at 4820-4824 feet, and was drilled to 4900 feet, or 856 feet sub sea, without encountering water. This producer was completed in August, 1929, by Vacuum Oil Company, and remained shutin until last June.

Geo. F. Getty, Inc.'s Etz-Conoco 1, C NE NE 12-21s-32e, western Lea County wildcat, filled 2000 feet with sulphur water in 15 minutes from lime at 3515-3517 feet, with an elevation of 3822 feet, and has been plugged.

Lea County registered 16 locations the past week, with the Eunice lime field contributing 8 and the Monument field was credited with 7 new tests and 5 of the 9 oil completions. The North Eunice, or Hardy sandy-lime field gained a new project through the starting of operations on J. C. Clower et al's W. H. Turner 2, SW SW SE 29-21s-37e.

Humble Oil & Refining Company's M. E. Laughlin 3, C SE SW 4-20s-37e, about one mile northwest of a dry hole on the east flank of the Monument field, tested 52½ barrels per hour at the end of 7-hour gauge through open tubing from lime at 3880 feet, or 315 feet sub sea. Rig has been skidded one location east to drill Laughlin 4, C SW SE 4-20s-37e. Oil Well Drilling Company et al's State-Wood 1, C W½ NE NW 16-20s-37e, gauged 490 barrels oil in 3 hours natural through open tubing from lime at 3875 feet, with an elevation of 3539 feet. It is the first completion in the field on less than a 40-acre unit. Gulf Oil Corporation has started operations on T. Anderson 5, C SE NW 17-20s-37e, and Ohio Oil Company made location for Laughlin 2, C SE NW 9-20s-37e. Barnsdall Oil Company will conclude its drilling program upon the completion of Barber 8, C SE SE 12-20s-36e.

Amerada Petroleum Corporation's Sarah Phillips 2, C NE SW 33-19s-37e, edge location southeast of Monument, failed to respond with commercial production when treated with an aggregate of 9000 gallons of acid solution in three injections at 3910 feet, or 341 feet sub-sea. The well produced 102 barrels oil in 2¾ hours and quit after 180-quart nitro shot at 3815-3910 feet, and gives promise of making a pumper. The Texas Company's State-Lieu 6, C NW NE 20-20s-37e, is a new test for the south end of the Monument area. Phillips Petroleum Company is starting operations on Britt-Mexico 2, C SW NE 18-20s-37e, while Repollo Oil Company is under way on Barber 7, NE SW NW 8-20s-37e.

The interval between the Monument and Eunice fields will be shortened by one location as result of the starting of operations on Mid-Continent Petroleum Corporation's A. B. Reeves 1, C NW NW 29-20s-37e. This concern's H. D. Greer 1, C NE NW 21-22s-36e, south end of the Eunice lime area, flowed 15 barrels hourly after using 2000 gallons of acid at 3794 feet, with an elevation of 3536 feet. Stanolind Oil & Gas Company recently made location for McQuatters 1, C NE NE 11-21s-36e, and Two States Drilling Company and Union Oil & Mining Company are under way on State 1, C SE NW 11-21s-36e.

Tight lime section encountered by Amerada Petroleum Corporation's State 2-W, C SW NE 30-20s-37e, west offset to a good producer completed the previous

NEW MEXICO

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Gulf, M. Campbell 2, c ne sw 7-21s-36e	720	3900
State-Bell 4-C, c se nw 15-21s-36e	1250	3875
State-Orcutt 6-C, lot 3, 6-21s-36e	1050	3847
Two States Drlg. Co.-So. Pet. Explo. Inc., McQuatters 1, c nw se 11-21s-36e	750	3886
LEA COUNTY (Wildcats)—		
Baldridge & Kroenline, Blakey 1, c nw ne 5-20s-38e	*	4430
Carlock et al, Quincey-Ricker 1, c se se 7-16s-36e	*	5512
Geo. F. Getty, Inc., Etz-Conoco 1, c ne ne 12-21s-32e	*	3517
LEA COUNTY (Monument Field)—		
Continental et al, H. M. Britt 1-B-18, c nw nw 18-20s-37e	4000	3875
Gulf, State-Kutter 3-B, c nw nw 28-19s-37e	400	3978
Humble, M. E. Laughlin 3, c se sw 4-20s-37e	1500	3880
Oil Well Drlg. Co. et al, State-Wood 1, c w½ ne nw 16-20s-37e	4000	3875
Shell, State 4-B, c se nw 36-19s-36e.	1500	3939

*Failures; †Junked; Million cu. ft. gas.

week by the company on the north end of the Eunice field, required 4 acid treatments to convert into an oil producer. Lime formation at 3850 feet, or 312 feet sub-sea, tested 2,700,000 feet of gas with spray of oil and b.s.&w. after using 2000 gallons of acid solution twice. The hole was deepened to 3888 feet, or 350 feet below sea level, and 2000 gallons of acid followed by 6000 gallons appeared to have increased the oil yield. Gulf Oil Corporation has started up on W. W. White 2, C NE SE 25-20s-36e, and Humble Oil & Refining Company has moved in to drill State-Aggies 11, C NE NE 31-20s-37e.

Continental Oil Company et al's A. E. Meyer 18-B-4, Lot 2, 4-21s-36e, gauged 48 barrels oil in 19 hours on 30/64-inch choke from lime at 3840 feet. Operations have been started on State 8-D-15, C SE SE 15-21s-36e, and Lockhart 6-B-14, C SW SW 14-21s-36e, offsetting production in the Eunice field. Atlantic Refining Company's State-Catron 5-L, Lot 4, 3-21s-36e, is an east edge location.

NEW GAS BILL

Would rewrite Texas law now in effect

Austin.—Senator Clint Small has introduced a bill in the Texas Legislature which would completely rewrite the gas waste law now in effect.

The bill provides for zoning of the Panhandle or any other gas field for the purpose of preventing drainage of gas from the sweet to the sour gas area.

It provides that no oil well may produce or blow into the air "natural gas in excess of the amount which is necessary in the efficient drilling or operation of the well." Use of any gas for carbon black without first stripping it is expressly forbidden; nor can any carbon black be manufactured from sweet gas being derived from an oil or a gas well.

The intermingling of sweet and sour dry gas in a common reservoir is forbidden as well as the use of dry gas in a gasoline plant for light or fuel purposes when any residue gas from such a plant is being blown into the air.

If production of an oil well is curtailed and results in increasing the gas-oil ratio to a point that it would fall within the gas well classification, the commission is to continue to treat it as an oil well.

The commission would be empowered to restrict the operation of any oil well which produces an unreasonable amount of gas.

These and other changes provided in the bill are intended to meet the provisions of the decision recently handed down by the U. S. Supreme Court.

ENLARGE OUTLET

Wichita Falls.—The Texas Pipe Line Company will enlarge its transportation facilities in the East Bryson field, Jack County, by constructing about 42 miles of line to its trunk line carrier station near Breckenridge. Program calls for the laying of about 20 miles of 8-inch and 22 miles of 6-inch welded line, which will be routed via the Rathke-South Bend area, Young County, and will supplement an old combination 6-inch and 4-inch outlet that has been serving the Jack County field.

Increased Activity

GOLDSMITH TO BECOME THE SECOND MOST ACTIVE AREA

WEEKLY STAFF REPORT

Midland, Texas. — Scheduled expansion of drilling operations in the Goldsmith field, Ector County, will shortly enable it to become the second most active area in West Texas. First position has been held by the Sayre field, Winkler County, for a long period, and will be maintained for some months hence, as operators are drilling all inside locations on large tracts on a basis of one well to 10 acres in addition to matching necessary offsets. Wider spacing program has been adopted by the majority of the producers in the Goldsmith field, which affords a greater number of virtually proved undrilled locations.

Aggressive drilling programs launched early this year in the northwest portion of the Goldsmith field by majors and independents are beginning to yield completions. W. H. Dunning, Jr., Fort Worth, and associates were granted permits for the drilling of 43 additional tests on five 160-acre leases during the week ending February 20. These proposed tests are spaced on a basis of one well to 10 acres. Landreth Production Corporation, with five rigs running, was preparing to complete two wells late last week. This concern is using gas from its discovery well on the Scharbauer ranch for boiler fuel. Initial flow of 50 barrels per hour was credited to the company's Clarence Scharbauer 1-D, NWc Section 32, Block 44, following 75-quart nitro shot in lime at 4198-4228 feet. The Company's Scharbauer 1-C, SEc Section 30, encountered better porosity in the lime and flowed 50 barrels per hour natural at 4172-4225 feet, but will be acidized. Both offset a flowing producer. Atlantic Refining Company's W. F. Cowden 1, near SWc NW¼ Section 30, Block 44, gauged 1016 barrels oil in 8 hours after 285-quart nitro shot at 4170-4265 feet, and T. P. Land Trust 1-A, C NE SE Section 35, Block 45, flowed 974 barrels in 8 hours after 220-quart shot at 4170-4265 feet.

Outpost Finds Water

Bottom-hole water was encountered by Humble Oil & Refining Company's W. F. Cowden 2, SEc SW¼ Section 30, Block 44, situated one-half mile from nearest production, when formation tester was used in saturated lime zone at 4115-4290 feet. The well was swabbed through casing for 14 hours and averaged 12 barrels fluid per hour, including about 90 per cent oil. It will be plugged back. Appearance of this water may result in later nearby tests halting at a higher sub sea depth.

Geo. F. Getty, Inc., Fort Worth, acquired its first oil production in the district by completing R. H. Lindley-Conoco 1, C SW SW Section 8, Block A-46, PSL Survey, Andrews County, pumping 157 barrels of 31-32 gravity oil initial after nitro shot at 4642 feet. This well extends the Ogden-Deep Rock field about 1¾ miles to the northwest. In southwestern Andrews County, American Liberty Oil Company's Mayhew 1, C SE SW Section 23, Block A-51, suspended operations at 5000 feet, contracted depth, and will not be deepened unless nearby lease owners give adequate support to carry the wildcat to a decisive depth in the lime.

Plug Gaines Wildcats

Plugging orders were issued the past week for two wildcats in southern Gaines County. Stanolind Oil & Gas Company's Morrow 1 was abandoned at 4856 feet, or 1533 feet sub sea, and Amerada Petroleum Corporation's Robbins 1 was drilled to 4940 feet, or 1685 feet below sea level. Both drilled to water, and failed to make commercial pumpers after plugging back. Reports indicated that Amerada Petroleum Corportion will move the rig and recovered pipe to a proposed location on the Seminole structure, Gaines County.

Failure of Texas Pacific Coal & Oil Company's Ruth Bennett 1, second completed flowing well for southeastern Yoakum County, to register a production gain in deepening from 5236 feet to 5271 feet, or 1712 feet sub sea, proved disappointing to boosters for the area. The well flows about 50 barrels daily while deepening. Bottom hole water is due within about 15 feet, if the water level is constant, as the discovery well hit water at 5282 feet, or 1725 feet sub-sea. Production was in excess of proration allowable when the well was deepened, but a more prolific oil zone was anticipated, with possibilities of attracting a pipe line connection and additional tests.

Clark, Cooper & Smith's A. P. Jordan 1, NEc Section 12, Block B-22, PSL Survey, Crane County, filled 400 feet with oil after nitro shot at 3590-3610 feet, and will probably make a pumper. It was drilled to 3750 feet, or 940 feet below sea level without encountering water. This wildcat is 3½ miles south of the Judkins field, Ector County.

Three-well drilling program launched early in February by John D. Hertz, Chicago, et al on the E. S. Hughes land, on the west edge of production in the McCamey district, Crane County, approached a showdown stage late last week. Hughes 1-A, Section

101, B. L. Prater-Frost Survey, was drilling below 2200 feet, and Hughes 1-C, Section 2, H&OB Survey, had progressed beyond 2240 feet without logging saturation in the lime. Hughes 1-B, Section 2, H&OB Survey, showed a trace of oil with sulphur water when tested in lime at 2112-2129 feet, and will plug back to acidize.

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, J. S. Means 13	241	4543
J. S. Means 14	525	4535
ANDREWS COUNTY (Deep Rock-Ogden Field)—		
Geo. F. Getty, Inc., R. H. Lindley-Conoco 1	157	4642
CRANE COUNTY (McCamey Field)—		
C. J. Dickson et al, E. S. Hughes-Conoco 1-C	368	2487
CROCKETT COUNTY (Wildcat)—		
Anderson Oil Co., Todd-Southland Royalty 1	*	1644
ECTOR COUNTY (Goldsmith Field)—		
Atlantic, W. F. Cowden 1	3048	4265
GAINES COUNTY (Wildcat)—		
Amerada, C. E. Robbins 1	*	4940
Stanolind, J. A. Morrow 1	*	4856
GARZA COUNTY—		
Grisham-Hunter Corp., Post 1-A	†	1125
GLASSCOCK COUNTY—		
Conoco-Group 1 Oil Corp., Settles 22-S	343	1260
Settles 23-S	462	1250
HOWARD COUNTY—		
Continental, G. O. Chalk 2-D	321	1737
Ed. S. Holman, Inc., TP Land Trust 4	1324	2506
Magnolia, Sloan-Chalk 7	264	2976
Owen Murray et al, J. P. Davis 5-A	833	2818
JONES COUNTY—		
C. M. Gillespie & H. A. Swan, Jr., E. T. Hall 1	*	2103
Gist & Graddy (was Anderson-W. M. Richards), G. E. Ransom 1	*	1772
Lewis Prod. Co., H. Sayles 1	*	2285
N. H. Martin & Son, H. Dorsey 4-D	1474	2207
E. A. Ungren & A. J. Frazier, Dorsey 3-D	2490	2232
PECOS COUNTY (Torborg Field)—		
Phil Broun et al, Tippett-Humble 18	99	483
PECOS COUNTY (Pecos Valley Field)—		
Culbertson & Irwin, Iowa Realty Trust 1	*	1829
UPTON COUNTY (McCamey Field)—		
D. L. Hunter et al, J. W. Robbins 1	500	2203
Magnolia, E. S. Hughes 5	520	2253
Powell Gap Oil Co., J. F. Lane 2	805	2154
Shell, C. H. Rogers 1	429	2579
TP Coal & Oil Co., A. A. Reese 6	704	2635
Ellen Shirk 9	573	2175
WARD COUNTY—		
Gulf, Hutchings 66	1188	2755
Richardson Oils, Inc., Hathaway 19	3000	2687
Standard (Texas), L. A. Adams 7	252	2985
B. D. Durgin 44	292	2529
J. F. York 27	458	2543
Tide Water Associated, W. D. Johnson 5	2851	2623
WINKLER COUNTY (Emperor Field)—		
Emperor Oil Co., Woodley-Halley 3	640	2873
WINKLER COUNTY (Henderson Field)—		
Atlantic, Fred Leck 8-B	7500	3070
Fred Leck 9-B	7000	3070
Fred Leck 10-B	5000	3070
Humble, J. B. Walton 11-C	2500	3058
WINKLER COUNTY (Keystone Field)—		
Richardson Oils, Inc., J. B. Walton-Humble 1	153	3413
WINKLER COUNTY (Sayre Field)—		
Amerada, Cowden 1-A	674	3041
Gulf, L. Daugherty 15	817	3100
L. Daugherty 18	798	3000
L. Daugherty 19	674	3000
L. Daugherty 20	955	3000
Humble, J. F. Howe 23	1107	3005
Magnolia, J. B. Walton 61	1504	2985
Mid-Continent, Walton 14	1500	2970
Monday Oil Co.-Bert Fields, Abilene Bank-Conoco 10	1084	2984
Navarro Oil Co., F. S. Vaden 1	507	3130
Shell, Ida Hendrick 5-L	602	3050
Sinclair Prairie, F. S. Vaden 1-B	616	3140
Skelly, N. R. Colby 4	1165	3115

*Failures; †Junked; Million cu. ft. gas.

GRAYSON WELL SHOWS
New level in Wilbarger to start deepening work

Wichita Falls.—Wildcat operations in Grayson County assumed a brighter outlook the past week when Rapp Drilling Company et al's J. R. Singleterry 1, situated immediately southeast of Collinsville, proved capable of making a small pumper after 20-quart nitro shot in sand at 3848-3864 feet. It was plugged back from 4219 feet to 3877 feet after drilling into salt water, with 6⅝-inch pipe at 3845 feet. The well filled 2600 feet with 27.6 gravity oil and a trace of water following shot, then swabbed dry, but the fluid level rises at rate of 2 barrels per hour. Owners have ordered a standard rig installed to condition the hole for a second nitro shot. The well centers upon a 4500-acre drilling block. Geologists have not fully identified the age of the oil formation.

New Level in Wilbarger

Natural flow of 276 barrels of pipe line oil in 3 hours was credited to Phillips Petroleum Company's Waggoner Estate 51, NEc Section 44, Block 4, H&TC Ry. Survey, South Vernon district, Wilbarger County, when given official test from saturated lime at 3055-3071 feet. This deepened shallow producer establishes a new oil and gas horizon for the county, and will result in several nearby wells being carried to the lower pay.

Exploration of the Strawn sandy-lime zone underlying the old K-M-A field, Wichita County, is attracting additional independents. Deep Oil Development Company's Munger Farm Company 7, Block 30, KWVFL Survey, earned an allowable of 96 barrels daily after establishing a flowing potential of 402 barrels from pay at 3824-74 feet, with the bottom at 3881 feet.

In the Rathke field, Young County, Rathke Oil Company et al's Wadley 3, near southwest corner of 135-acre lease, is rated at 7,000 barrels natural in Marble Falls sand at 3997-4012 feet, according to owners. The well produced about 150 barrels of high-gravity oil in 25 minutes, with gas volume estimated at 5,000,000 feet daily. In addition to the proration quota to be earned from the lower pay, this well is permitted to produce 45 barrels daily through bradenhead on 7-inch pipe cemented on top of Caddo lime pay at 3600-3952 feet, which responded to treatment with 5000 gallons of acid with a potential rating of 274 barrels. Dual proration allowables are granted all wells completed in the Rathke field when an extra string of pipe is cemented between the Caddo and Marble Falls zones.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Empire, Magnolia 2-E	850	3050
Gulf, B. F. Block 11	603	3109
Magnolia, Fee 19, Lse. 244	789	2993
J. R. McGill & Haze, E. Cooper 5	707	3065
GRAY COUNTY—		
Gulf, S. Faulkner 6-A	273	2936
Magnolia, Fee 16, Lse. 227	128	3067
Texas Co., A. Chapman 5-B	788	2682
HUTCHINSON COUNTY—		
Drilling & Explor. Co., Inc., W. B. Haile 9	671	3073
Gulf, H. C. Pitcher 9	205	3210
J. M. Huber Pet. Co., Herring 1	¶10.3	2826
G. N. McDaniel-Power Pet. Co., W. B. Haile 1	720	3050
Texas Co., T. D. Lewis 12	447	3051
WHEELER COUNTY—		
C. T. Palmer et al, J. Mertel 1	¶11.8	2075

*Failures; †Junked; Million cu. ft. gas.

NORTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Brown & Kriss, G. R. Campbell 4, blk 11	10	1237
L. T. Burns et al, J. S. Bridwell 5-A	*	920
B. D. Ikard 1-B, blk 5	*	1080
Consolidated Oil Co.-Kelleher, J. H. Turbeville 1	*	1487
Hamilton Pet. Co., W. I. Pace 33, blk 101	*	1180
R. O. Harvey et al, R. Kinder 2, sec 69	*	1370
Rathke Oil Co., G. P. Meade 4, blk 39	20	1442
Shappell Oil Co., G. W. Norton 1	*	1153
W. M. Waterman et al, G. Williams 1	*	617
CLAY COUNTY—		
Bridwell Oil Co., J. Stephenson 3, blk 56	*	350
COOKE COUNTY—		
Anderson-Kerr Pet. Co., F. A. Bruhlmeyer 4	70	2023
Harrison & Dillard, R. W. Trew 1	175	1232
Mack Oil Co., C. F. Felderhoff 1	7	728
JACK COUNTY—		
J. G. Beard & J. C. Collier, M. A. Bryson 1	108	3236
Bennett Prod. Corp., W. J. Chambers 5	950	2985
D. C. Clayton 4	395	3053
Cato Oil Co., J. A. Raley 2	490	3028
John B. Collier, Jr., et al, W. R. T. Ezell 1	525	2952
Gwynn & Overby, B. F. Rankin 6	38	3049
Hamilton Pet. Co., A. B. Kuykendall 3	20	2387
Hill & Hill, S. M. Jones 1	406	3083
MONTAGUE COUNTY—		
Bridwell Oil Co., W. W. Jones 1, blk 16	¶¾	1866
D. L. Monroe et al, T. W. Sappington 1	*	1524
Raizen Bros. et al, W. W. Jones 5, blk 24	4	834
W. W. Jones 6, blk 24	¶½	412
Reinhart & Witt, T. B. Cunningham 1	*	951
Sinclair Prairie-Gibson & Jennings, Inc., Holt 4	240	1753
THROCKMORTON COUNTY—		
Canyon O&G Co., L. D. Lilly 4, sec 279	*	406
WICHITA COUNTY—		
L. T. Burns & Long, Crites 14, sec 5	2	1724
G. W. Cooper et al, Waggoner Est. 16-C	199	1637
Culbertson & Co., Waggoner Est. 81, sec 13	*	1523
Douglas Prod. Co., L. P. Douglas 27-A, sec 14	*	321
Humble, Williams-Parker 2, sec 25	*	693
King Oil Co., M. M. Stone 1-B	35	1623
Waggoner Est. 13-H	75	1985
Tom B. Medders et al, Foster-Allen 1-A, sec 2	*	1923
Reno Oil Co., F. A. Sanders 17	*	1885
O. R. Tautenhahn et al, K&K 1, sec 58	*	1826
YOUNG COUNTY—		
Geo. Alexander et al, S. R. Jeffery 2, sec 51	*	901
L. T. Burns et al, G. B. Hamilton 1-B, sec 3401	*	997
Estacado Oil Co., R. Campbell 1, sec 1463	*	980
Falls Prod. Co., Deats-Seddon-Jeffery 2	25	4062
Holbrook & Woods, S. E. Watson 10, blk 22	*	630
Kimmell, Lee & Co., Prideaux 3	5	670
Prideaux 5	8	666
J. W. Lane et al, Lem Groves 1, sec 1491	10	972
Hattie B. Madden et al, S. D. Graham-Marsh 1, sec 244	*	751
K. R. March et al, A. J. Ernest 1	*	1112
Rathke Oil Co., G. P. Stewart 1, sec 1493	*	910
Worth Oil Co., F. M. Cullers 17, blk 19	*	540

*Failures; †Junked; Million cu. ft. gas.

Going Deep at Mexia

WILL EXPLORE TRINITY SERIES TO 8,000 FEET

WEEKLY STAFF REPORT

Mexia, Texas.—Revival of deep exploratory work in the Mexia field has been launched by Pure Oil Company, largest producer and lease owner in the Woodbine zone, with the starting of operations on W. B. Kendrick 16, which is slated to test the entire Trinity series and possibly penetrate the Paleozoic section for the first time in the district. Heavy duty rotary rig formerly in service on the Gulf Coast will be used by the company with a 136-foot steel derrick. In order to make a decisive test the company plans to drill to 8000 feet, according to R. B. Kelly, division manager, or approximately 1900 feet deeper than any of the four previous lower Trinity tests on the Mexia faulted structure.

Subsurface information afforded by the four deep tests has been taken into consideration by Pure Oil Company in locating Kendrick 16 about 1700 feet east of the Woodbine fault, or 1470 feet from most southerly southeast line and 723 feet from most westerly southwest line of 96-acre lease. It is adjacent to pumpers in the Woodbine, and about three miles west of Mexia. E. L. Smith Oil Company's et al's Jake Steubenrauch 1, which produced 5,000,000 feet of gas with spray of high-gravity oil in lower Glen Rose at 5032 feet in 1927, made the best production showing of any of the Trinity tests, but the hole was junked while attempting water shutoff. Commercial gasser in the Trinity would be profitable at Mexia as the production would be utilized for fuel on pumping units, and for jetting wells that make quantities of water.

Long Lake Trinity Test

Tide Water Associated Oil Company and Seaboard Oil Corporation's Monnig Bros. 7, first Trinity test for the Long Lake field, Anderson County, was drilling at 6495 feet. It is seeking production in the lower Glen Rose lime series that are due near the 8600-foot level. The partnership has two prolific gas and distillate wells completed in the lower Glen Rose at Cayuga. Electrical formation surveying tool used on Monnig Bros. 7 corrected top of Woodbine series at 5273 feet, and first Georgetown lime at 5904 feet, or 5671 feet sub-sea. The Woodbine horizon on the north end of the Long Lake field affords a good body of gas and oil sand. F. H. E. Oil Company and Fleming-Kimbell Corporation's J. H. Morrow 1, SWc 50-acre lease, J. Madden Survey, a minor extension, cored an almost solid section of sand carrying gas at 5310-5350 feet, followed by a 5-foot recovery of oil sand. Five-inch pipe has been cemented at 5355 feet, and will be gun-perforated opposite the oil zone.

Tom F. Hunter, American Liberty Oil Company et al's Gage 1, Trinity test for the Blackfoot geophysical high, Anderson County, tested salt water in Woodbine section topped at 4784 feet, with an elevation of 384 feet, and was drilling in lower Woodbine at 5100 feet, according to late reports.

Independent owners of town lots and small drilling sites within and adjacent to Grapeland, Houston County, continue to fortify themselves with approved drilling permits as protection against two tests underway near the town. A. D. Hudspeth and Sunray Oil Company, Oklahoma City, are exploring a small block, centering 2 miles southwest of town, for Woodbine sand production. Late last week their A. B. Spence 1, NWc 29.2-acre tract, C. Aldrich Survey, was drilling near the 5300-foot level, having logged Pecan chalk at 4660-4962 feet. American Liberty Oil Company et al's J. A. Bean 1, NEc 61.02-acre lease, Green Evans Survey, 1¼ miles northwest of town, logged Pecan chalk at 4623-4899 feet, and was drilling at 5400 feet. The latter is a short distance southwest of gas and distillate well completed last July in Woodbine at 6025-37 feet. American Liberty Oil Company acquired controling interest in the discovery well and acreage block, and is using the gas for boiler fuel at the two active tests. Distillate production was cut from about 150 barrels to 80 barrels daily through the installation of a bottom hole choke.

TWENTY-TWO FLOW

Sulphur Bluff limits are yet to be defined

Mount Pleasant.—Completions in the Sulphur Bluff field, Hopkins County, the past week boosted the number of producers to 22, all flowing their allowable quota. The discovery well was completed as a pumper, but has since proved capable of flowing its reduced allowable by heads. No dry holes have been drilled to outline the productive limits of this faulted structure. The fault plane will cut off production abruptly on the north flank.

D. S. Hager, W. P. Luse and Russ Petroleum Company's Rooney Long 1, east end of 39.86-acre lease, cut through the fault between 4320 and 4330 feet, and logged favorable oil saturated sand at 4418-4517 feet, with the hole bottomed in shale at 4518 feet, or 4074 feet below sea level. Production gauge was scheduled to be taken late last week. Position of this north outpost to the fault reveals that a normal location to the north would find most of the Paluxy pay cut out.

F. D. Jones Drilling Company et al's S. B. Pierce-Gulf 3, an inside location, gauged 60 barrels per hour natural from Paluxy at 4462-4506 feet, with an elevation of 430 feet. Pierce-Gulf 4, north offset, logged sand section at 4434-4490 feet, and was credited with showing for a larger producer on preliminary test. Russ Petroleum Company and W. P. Luse have erected derrick to drill S. B. Pierce 1, NWc of the south 97 acres of the 247-acre tract. Shell Petroleum Corporation's J. G. Reynolds 1, NEc of 200-acre lease, logged first sand at 4517 feet, with an elevation of 424 feet.

Humble Oil & Refining Company's G. A. McPeters 1, east outpost for the Talco field, Titus County, failed to register a natural flow when tested at 4352 feet, or 4025 feet sub sea, with casing gun-perforated at 4211-62 feet, and will be placed on pump. Attractive producer would have encouraged exploratory tests further to the east.

Location for the proposed Trinity test announced last week for Humble Oil & Refining Company immediately northeast of Woodbine sand production in the Van field has been authorized for the southwest corner of the L. K. Riggs 26-acre tract, Wm. Daniel survey, about 2500 feet northwest of production. Selection of this site will enable the company to explore the deep sands on the upthrow side of the fault plane that severs the field proper. George Greer and American Liberty Oil Company's Freeman 1, Paluxy test for the southeast edge of Van, was drilling near the 4450-foot level. It is due to reach the Paluxy series near the 4800-foot level.

In southeastern Hunt County, Superior Oil Company of California et al's P. D. Paul 1, logged Massive Anhydrite formation at 5339-5450 feet, with an elevation of 489 feet, and began showing porosity in the lower Glen Rose while coring at 5625 feet.

Carpenter Oil Corporation, Fort Worth, et al's J. M. Roberts 1, Red River County wildcat, cored top of Paluxy sand at 1135 feet, according to an official of the company, and recovered 6 feet of sand showing oil saturation below this depth. Pipe will be set for a swabbing test. It is on a 100-acre lease, John Ware survey, about 10 miles northeast of Clarksville, and about 400 feet southeast of a test drilled by Cleary Bros. et al that showed a small quantity of heavy oil when tested at 1131-44 feet in November, 1935.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
R. H. Dearing & Son, A. P. Finney 11 (39.7-ac)	120	3685
Georgian Corp. (was Maryland Corp.), Cross-Ohio 4 (63.43-ac)	600	3677
Gulf, W. P. Keeling 7-A (53-ac)	6500	3809
J. C. Hawkins-C. L. Anderson, J. H. Moore 1 (8.15-ac)	750	3769
Humble, S. A. Plowman 47-A (228½-ac)	9000	3771
J. H. Wooley 33 (201.53-ac)	9700	3762
Hunt Oil Co., Bradford 18-D (170.1-ac)	200	3630
P. G. Lake, Inc., C. N. Dickerson 9 (55-ac)	300	3630

Company, Well and Location	Init. Prod. Bbls.	Depth
Ohio, M. C. DeGuerin 23 (160.7-ac)	4000	3665
Sinclair Prairie, G. Patterson 12 (164.33-ac)	2500	3681
Stanolind-Pure, W. H. Siler 71 (270.36-ac)	750	3697
Tide Water, L. J. Pinkston 22 (135-ac)	5600	3804
KILGORE AREA—		
Gulf, S. Hilburn 93-C (274.32-ac)	4000	3544
H. & F. Corp.-Carl Schweers, W. P. Crews 10 (68.83-ac)	750	3731
W. P. Crews 12 (68.83-ac)	600	3735
Hurricane Pet. Corp., H. Alexander 5 (25-ac)	1200	3617
Magnolia, W. M. Jernigan 10 (80-ac)	10,500	3645
A. F. Shepherd 2 (415.8-ac)	360	3587
Maxele Oil Co. (was Max Rubin), K. M. Pitner 2 (40-ac)	80	3456
Shell, J. B. Watson 63 (385.2-ac)	8500	3623
Sun, J. R. Beall 25 (180-ac)	7200	3599
Sun-Seaboard, M. T. Cole 41 (266.17-ac)	8500	3548
Mrs. Eddie Thompson et al, S. King-Hilburn 9 (35-ac)	5600	3615
Tide Water, Tom Bell 17 (60.8-ac)	1500	3740
LONVIEW AREA—		
Arkansas F. O. Co., M. D. Allison 11 (59½-ac)	10,000	3603
Creighton & Co., Inc., J. Hargraves 3 (40-ac)	700	3727
J. Hargraves 4 (40-ac)	600	3740
Gilcrease Oil Co., J. W. Free 9-A (35.95-ac)	8500	3670
Humble, I. D. Smith 36 (245.98-ac)	8400	3716
J. M. Smith 11 (90.3-ac)	5000	3688
Magnolia, J. W. Free 30 (169.3-ac)	1200	3719
B. F. Phillips et al, L. J. Everett 2	10	3613
C. Everett 6	*	3601
Red Star Oil Co., F. C. Christian 5 (22.3-ac)	9200	3622
Shell, A. N. & V. King 25 (160-ac)	10,400	3597
Sinclair Prairie, J. W. Akin 16-A (96.6-ac)	9600	3630
W. H. York 16 (86.45-ac)	7000	3582
Southland Drlg. Co.-United E&W Oil Co., O'Byrne 40 (304-ac)	500	3736
Stanolind, Cox-Hamon 12 (72.68-ac)	3000	3480
C. J. Dollahite 8 (41.99-ac)	7200	3675
Pet Hopkins 18 (100-ac)	8000	3575
Pet Hopkins 19 (100-ac)	7300	3603
Tide Water, Lake Devernia 40 (270.85-ac)	9800	3543
CASS COUNTY (Rodessa)—		
United Gas, Willis 2, Wilson Robinson sur	880	6035
Tyson A-6, J. H. Rives sur.	384	6055
J. A. Bewley A-5, H. Holbert sur.	340	6005
ANDERSON COUNTY (Long Lake Field)—		
Hunt Oil Co., Robinson-Hombs 3 (63-ac)	500	5345
HOPKINS COUNTY (Sulphur Bluff Field)—		
F. D. Jones Drl. Co. et al, S. B. Pierce-Gulf 3 (150-ac)	1440	4506
TITUS COUNTY (Talco Field)—		
W. B. Hinton et al, J. Hargrove 7 (133.29-ac)	300	4340
Humble, A. P. King-Hughes 25 1053.36-ac)	338	4331
A. P. King-Hughes 28 (1053.36-ac)	409	4318
Magnolia, K. Mainard 4 (130¾-ac)	337	4295
Alex U. McCutchin et al, Burke 1, lot 3, blk 31	360	4345
WILDCATS		
CHEROKEE COUNTY—		
Gen'l Crude Oil Co., O. A. Blawley 1 (50-ac)	*	4282
DELTA COUNTY—		
W. S. McGee & F. J. Estes, Mrs. P. W. Miller 1 (52-ac)	*	4220
FREESTONE COUNTY—		
C. A. Everts et al, O. K. Killam 1 (840-ac)	*	5158
Fred R. Lovering et al, E. Bonner-Scott 1 (23-ac)	†	3870

*Failures; †Junked; Million cu. ft. gas.

Important Strike

WILDCAT SOUTH OF LONDON PRODUCES FROM FRIO SAND

WEEKLY STAFF REPORT

Corpus Christi.—A spectacular Nueces County wildcat strike, which may rival the other large fields of the South Texas Gulf Coast, was made February 25 when I. J. Allen and Seaboard Oil Corporation's J. O. Chapman 2 showed for a large producer from the Frio sand near 6500 feet. The test is located 660 feet out of the southwest corner of Section 38, Laureles Farms Tracts, and is 8500 feet southwest of the London field discovery well, completed several weeks ago.

The test topped sand at 6464 feet, cored to 6471 and ran a drill stem test, the seat being set at 6462 feet. In 10 minutes, it developed 1100 feet of pipe line oil, 42 gravity, under 20 pounds working pressure. The hole was being cored ahead to determine the total thickness of the sand, after which casing would be set and the well completed through perforations.

On February 26, crew was going back into the hole after changing bits at 6532 feet. Saturation was found in sand at 6464-84 feet, below which the test went into shale and sandy shale showing oil to 6524 feet. From 5624 to 5632 feet, the bit cut like sand, but no recovery was available on cores. It likely will be drilled ahead to 7000 feet, after which casing will be set.

The test is likely on a different structure from the London field, as it is approximately 100 feet lower at present and is 70 feet lower than Wellington Oil Company's test on the base of the Oakville. The area, therefore, will be referred to as a new field.

While the well is 8500 feet southwest of the London pool's only producer, it is looked upon as being a likely extension to that area and the opener of a new sand. Production in that field is from a Catalhoula sand at 4700 feet, while the new strike is from the Frio. Wellington Oil Company's Stockton 1, discovery well at London, drilled to below 7,000 feet, finding a number of sand bodies with shows of oil and gas. The same applies to the Allen and Seaboard project. This well showed for a large wet gasser at 5051-66 feet, and found another sand at 6201-6 feet, which showed oil.

The Allen and Seaboard interests control many thousand acres of leases in this general area, consequently development will be carried on in conservative manner.

Jim Wells Active

Jim Wells County comes in for a heavy development play with two fields in process of development. O. W. Killam has let a contract to George E. Smith for the drilling of 12 wells on the Wade Ranch in the Sandia-Wade field of northeastern portion of the county. This operator several days ago completed an oil producer at 4021 feet in the Frio, which flowed 83 barrels of 41.5 gravity oil per day through 5/32-inch choke under pressures of 1225 pounds on tubing and 1700 pounds on casing. One other well previously showed for a producer at this level, but ultimately went to salt water.

In the west extension to the Premont field, same county, work is centering around two sands, one around 2250 feet and another at 2350 feet, both providing flowing oil wells.

Invincible Oil Company (Lockhart Brothers) was extending the South Agua Dulce field, Nueces County, about one mile to the southwest with Mable Eliff 1, flowing considerable gas and distillate from casing perforations at 6410-20 feet. As well as extending the field, it opens an entirely new sand. The well drilled to 6912 feet, but plugged back, failing to show in the 6700 and 6800-foot sands.

An extension of about 2000 feet to the northeast was being provided in the 6700-foot sand of the Saxet field, Nueces County, with Bentex Oil Company's Harmon 2, running casing after showing oil in sand at 6741-52 feet. The well drilled to 6760 feet in sale and set casing.

COMPLETING WILDCATS

Several Balcones Fault tests are interesting

San Antonio.—Several more shallow wildcats in the Guadalupe-Caldwell sector of the Balcones Fault Zone, were in process of completion in the Austin chalk and Buda lime late in the week, indicating either extensions to present fields or entirely new producing areas. Amerada Petroleum Corporation is again becoming active in the Pearsall area, Frio County, with the staking of one wildcat, drilling ahead on a 10,000-foot project and completing an outpost producer.

Whittington et al's Sam McMahan 1, about one mile southwest of production in the Buchanan field, Caldwell County, encountered oil in the serpentine at 2035-55 feet, then went into the Austin chalk 5 feet, to 2060 feet, still showing oil. Casing was set and the well is now in process of completion.

About one mile farther southwest, and

still in Caldwell County, Easton and Manning's W. E. Lawler flowed 120 barrels per day from the Austin chalk at 2125 feet. The formation was topped at 1995 feet and 5-inch casing set at 1996 feet.

Two in Guadalupe

Guadalupe County has a couple of wells in process of completion, Perot Oil Company's J. Priestly 1, in the Williams survey No. 46, showed oil saturation in the Austin chalk at 2000-8½ feet and casing was set. It is drilling plugs for completion. In the old Sal Mar area, J. B. Stoddard et al's E. Harris 1, is swabbing, but will reacidize. It topped the chalk at 2036 feet and drilled to 2141 feet.

Much interest will center around Diamond Half Oil Company's E. Bibbs et al 1, 330 feet from the south and east lines of a 66.6-acre tract in the J. W. Robinson survey, on the northwest side of the Darst Creek field. This test is being drilled in an effort to cut the fault in the Edwards lime and strike the Glen Rose lime stone and Trinity sands high. This well will have a great bearing on the future of Trinity exploration along this sector of the Balcones Fault Zone.

Frontier Oil Company continues to have trouble with D and A. Oppenheimer 1, wildcat in the J. Sharp survey, six miles south of Lytle and in Atascosa County. The well is bottomed in the Edwards limestone at 2770 feet. It plugged back to 2670 feet to test upper showings.

Amerada Petroleum Corporation succeeded in completing Halff and Oppenheimer 7, on the extreme northeast side of the Austin chalk portion of the Pearsall field, Frio County. The well, bottomed at 5573 feet flowed 500 barrels of oil in 15 hours through ½-inch choke with casing pressure of 1300 pounds and tubing pressure of 150 pounds. Halff and Oppenheimer 8, in the same field, has progressed to 6430 feet on a 10,000-foot contract. About 2½ miles southwest of production, this company is rigging up on Mrs. D. D. Harrigan 1, S. Flores survey No. 306.

WATCH WILDCATS

Two in Hidalgo County are near contract depth

Mission.—Two eastern Hidalgo County wildcats were drilling near 8000 feet on deep contracts as the week closed, both reported to have logged interesting oil and gas shows, but being carried deeper for exploratory purposes.

Gulf States Oil Company's John Engleman 3, in the La Mestensa field, 8 miles northeast of Edinburg, had reached 7745 feet and was drilling ahead. Sterling Oil & Refining Corporation's J. C. Engelman 1, 7 miles east of Edinburg and in the La Blanca district, is drilling ahead just below 7800 feet.

Henshaw Brothers are making a deep test of Elizondo 1, 4500 feet north of the discovery well of the Samfordyce field, Hidalgo County. The well is coring ahead below 3265 feet and will be carried to at least 4000 feet. It cored the regular Samfordyce sand, but showed gas. The Wheeler horizon showed sandy shale with streaks of sand, and the Barlow sand at 2935-44 feet, showing gas. Another sand carrying gas was cored at 3158-84 feet. The present deepest production in the field is at 3000 feet.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LAREDO DISTRICT		
DUVAL COUNTY—		
Bridwell Oil Co., J. D. Sutherland 6-B, sur 122 (Hoffman)	25	2821
Rodney DeLange, Wright & Vela 13, sur 72 (Loma Novia)	*	2625
Duval Oil Corp., Bishop Cattle Co. 30, sur 57 (Loma Novia)	250	2574
W. K. Hoffman 9, sur 118 (Hoffman)	250	2857
Humble, E. J. Arnstein et al 2, M. Rogers sur (Sarnosa)	*	2470
A. H. Badgley 24, sur 307 (Seven Sisters)	¶37	2465
A. H. Badgley 26, sur 307 (Seven Sisters)	650	2492
DCRC 7-C, sec 901 (Lopez)	900	2145
T. D. Smith 47, sur 382 (Seven Sisters)	650	2487
T. D. Smith 48, sur 382 (Seven Sisters)	600	2476
Magnolia, S. Benavides 20, sur 174 (Cole-O'Hern)	200	2861
DCRC 10, sec 100 (Piedre Lumbre)	75	1970
Mrs. Emma Herbst 9, sur 70 (Loma Novia)	45	2744
A. L. Labbe 2, 990 ft sl and wl sec 1, sur H & G.N. RR. Co. (Labbe) (pb 2908)	35	3249
DCRC 1, sec 902 (Lopez) OWWO former td 2099	400	2131
A. Lundell Bros. 10, sec 60 (Gov't Wells)	30	2280
Wm. D. Mastin et al, D. Ruiz 3, 660 ft nel, 100 ft nwl n¼ of e¼ sec 128, G. Ruiz sur	*	2611
McKay & Reed Bros., A. Lundell Bros. 13, sur 60 (Gov't Wells)	126	2280
Mortimer and Springer, J. B. Peal 18-B, sur 796 (Lopez)	650	2158
J. B. Peal 21-B, sur 796 (Lopez)	500	2169
Oliver Oil Co., K. Shaffer 1, 330 ft nel, 330 ft nwl, s¼ sur 146, Anna Collins sur	*	4016
Smith & Hamill, G. Ruiz Est. 2, sec 41 (Loma Novia)	200	2612
Texas Co., L. C. Morris 1, G. B. & C. N. G. sur, 2319 ft sl, 330 ft wl sur 133	*	2941
Wellington Oil Co., DCRC 1, sec 51 (Colmena)	77	1516
DCRC 2, sur 51 (Colmena)	150	1500
STARR COUNTY—		
Sam Adams et al, Mrs. Donna Norris Garza 1, 1400 ft s St. hy 4, 150 ft el, Military Reservation, porc 80	*	1540
J. F. Anderson, Yzaguirre 1, 750 ft el, 150 ft nl of 139-ac tr, porc 79	*	3530
R. A. Mitchell et al, Kelsey Bass 2, porc 76 (Los Almos)	*	440
Moss and Heard, S. B. Ricaby 2, 271 ft el of w½ porc 83, J. of Camargo	*	1390
WEBB COUNTY—		
Mills Bennett Prod. Co., Louisa Garza 1 330 ft sl, 1650 ft el sec 711, S. K. and K. sur	*	2674
Sierra Oil & Roy. Co., A. S. Billings 6, sur 113 (Lopez)	300	2210
Smith & Hamill, S. Benavides 35, blk 449 (Cole-O'Hern)	450	2937
S. Benavides 2-A, blk 302 (Cole-O'Hern)	75	2908
Sun, B. Benavides 3-A, blk 446 (Cole-O'Hern)	250	2947
Texas Co., S. Benavides 4-A, blk 309 (Cole-O'Hern)	450	2909
ZAPATA COUNTY—		
Earl Callaway, Elvira B. de los Santos 1, sh 7 (Escobas)	25	1235
Sam Evans et al, S. Bustamante 5, sh 34 (Escobas)	15	1260
S. Bustamante 6, sh 34 (Escobas)	30	1280
Lipscomb & Daubert, P. Santos 3, sh 6 (Escobas)	50	1287
J. D. Long & Sam Evans, S. T. Phelps 1, 921 ft nel, 200 ft nwl, Phelps 200-ac tr, Villa gr.	*	1608
Magnolia, A. D. Haynes 5, blk 7 (Comitas)	*	1476
A. D. Haynes 19, sur 7 (Comitas)	48	1121
A. D. Haynes 20, sur 7 (Comitas)	45	1138
A. D. Haynes 22, sur 7 (Comitas)	50	1168
A. D. Haynes, 23, sur 7(Comitas)	40	1176
Matthews Dr. Co. & Earl Calloway, Justina Garcia 1-B, sh 3 (Escobas)	50	1054
B. W. Roscoe, C. Bustamante 14, sh 33 (Escobas)	60	1275
United, A. D. Haynes 16, blk 13 (Comitas)	35	1046
A. D. Haynes 26, blk 13	*	1613
Valley Osage Oil Co., A. D. Haynes 16, blk 14 (Comitas)	112	1070
SAN ANTONIO DISTRICT		
CALDWELL COUNTY—		
Brown Drilling Co., G. M. Blackwell 1, 800 ft nl, 225 ft wl, 409-ac tr, John Roe sur, (pb 2190)	15	2347
Easton & Manning, W. E. Lawler 1, 150 ft wl, 300 ft s Dry Creek, 126.8-ac tr, Pinchback sur	120	2125
W. T. & D. Prod. Co., W. A. Magee 2, John Neil sur (Branyon)	*	2267
J. M. Young 1, J. R. Miller sur (Branyon)	40	2225
FRIO COUNTY—		
Amerada, Halff & Oppenheimer 7, B. J. Gilman sur (Pearsall)	1000	5573
CORPUS CHRISTI DISTRICT		
ARANSAS COUNTY—		
Buckingham Oil Co., McCampbell Ranch 3-A, (McCampbell) blk 42 McCampbell Ranch subd	400	6541
Humble-Plymouth, P. H. Welder 10-B, (Heyser) A. Sisneros sur	400	5491
Portilla Drlg. Co., P. H. Welder 5-C, (Heyser) Agaton Sisneros sur	750	5476
DEWITT COUNTY—		
Southwestern Dev. Synd., Ltd, W. L. C. Poetter 1 (Slick) 2003 ft sl, 1003 ft wl of 591-ac tr Obid Marshall sur, 1320 ft w Slick 1 Poetter	210	4240
JIM WELLS COUNTY—		
Tom Graham, F. Bennett 2-A (Premont) Haldeman subd, S. K. & K. sur	200	2263
LIVE OAK COUNTY—		
Dirks Bros. & Ohio Fuel Oil Co., Kokernot & Dillworth 1, 150 ft sl & el of 40-ac lse, 883-ac tr, Refugio County School land sur No. 6	*	3424
NUECES COUNTY—		
Baltic Drilling Co., Dickson 1 (Saxet Heights) blk 13 Oak Park	325	4095
Baltic Drilling Co., A. M. Poenisch 1, Flour Bluff and Encinal Garden tracts blk 32	*	6550
Crown, Rand Morgan 2-C, (Saxet) sur 315	350	4441
Lonnie Glasscock, Glover Johns 1-B (Saxet) W. S. McGregor sur	425	4864
W. H. Harrison Drilling Co., Saunders 1 (Saxet Heights) blk 13	175	4082½
Hiawatha O&G Co., F. J. Smith 4-A, (Saxet) blk 35 Sheppard Farm lots	350	5832
Humble-Barnsdall, DeWitt Reed Est 2, (Flour Bluff) sec 47, Flour Bluff and Encinal Garden subd	650	6652
L. A. Webb 3, (Flour Bluff) blk 47, Flour Bluff and Encinal Garden tracts	600	6678
Pan American, 7-A Rand Morgan sur 403	500	5826
J. Sagarino 4-A, C.E.I. P. & M. sur 500 (Saxet)	450	5826
Sam Wilson, Fee 1 (Saxet Heights) Dodge Farm lots	350	4079
REFUGIO COUNTY—		
Cosmo Pet. Co., F.V.W. Heard 7 (Refugio) Refugio Townsite sur	500	4928
Hewitt & Doutherty, M. F. Lambert 39 (Tomoconnor) Swisher sur 6, blk 42	1500	5912
Quintana Pet. Co., Tom O'Connor 44-A (Tomoconnor) blk 1, Swisher sur 4	2500	5923
SAN PATRICIO COUNTY—		
L. A. Cage Prod. Co., J. W. Mayo 6 (Taft) J.N.W. Ottman sur	500	4920
Esves Oil Co., J. L. Britton 5 (Taft) blk 8 Taft Farm lands	650	4910
VICTORIA COUNTY—		
Barnsdall-American Lib., Buehler 8 (Placedo) lot 6, A. Murray sur	590	4775

*Failures; †Junked; Million cu. ft. gas.

MARGINAL BILL

Austin.—A bill amending the marginal law has been introduced in the Texas Legislature by Senator Clint Small. It would allow the Railroad Commission to curtail production of marginal wells below the statutory limit to effect efficient gas-oil ratios.

While the measure contains no clause reducing the current marginal well allowances, it is expected that an amendment to effect this change will be offered either in committee or when the bill is taken up on the floor of the Senate.

LABBE STRIKE

Field is proved for Loma Novia sand production

Laredo.—Oil production in the Loma Novia sand was finally established in the Labbe field, extreme northern portion of Duval County, as a result of the completion of Magnolia Petroleum Company's A. L. Labbe 1, southwest portion Section 1. The well was making 35 barrels of Mirando crude per day on pump after plugging back to 2908 feet from 3249 feet. Casing was perforated at 2905-7 feet.

Leasing in Duval

An interesting leasing play has developed in the general vicinity of the new Sweedon field of southeastern Duval County, where Hiawatha Oil Company recently discovered Conroe sand production. Two wells are drilling as offsets to the discovery, and another test has been announced in wildcat territory to the southwest. During the past week, Frank Gravis started moving in machinery for F. Vaello Puig 1, wildcat in the San Andres Grant, 4 miles to the northeast of this field. All these wells will be very closely watched for possible extensions to the new producing trend being developed.

In the southwestern portion of the county, but at the northwest side of the Lopez field, Magnolia Petroleum Company's Duval County Ranch 1, southeast corner of Section 902, flowed 364 barrels per day after being deepened to 2131 feet. The well originally was completed at 2079-99 feet as a gasser, but recently was deepened to the new level, finding sand at 2120-31 feet. This apparently established a new lens for the Lopez field.

Seven separate strikes were recorded in the general vicinity of Corpus Christi during February, several of which appear to be of great importance. No. 1 is the Sandia-Wade area, in which 4000-foot Frio sand production has been proved. No. 2 is the South Agua Dulce Field, where a 6400-foot well is opening a new horizon and extending the field. No. 3 is the Premont field, where a 2250-foot sand has been proved productive. This sand is 100-foot shallower than another horizon opened earlier in the year. No. 4 is London field, where a 6500-foot producer is in process of completion to extend the field 8500 feet to the southwest and open a new sand. No. 5 is the Saxet field, where a 6900-foot sand has been proved productive. In addition, several key extensions have been effected. No. 6 is White Point field, where 4700-foot sand finally has provided a commercial oil producer. No. 7 is the Lamar prospect, where a well at 7997 feet is flowing some oil.

WILDCAT FLOWS

Dewitt well does 6½ per hour through choke

Beeville.—George B. White et al's W. L. C. Poetter 1, Dewitt County wildcat, flowed at the rate of 6½ barrels of 48 gravity oil per hour through ¼-inch choke under pressures of 300 pounds on tubing and 580 pounds on casing to re-establish oil production in the Slick field. The well is in Pettus sand at 4220-40 feet, with 5½-inch casing set at 4222 feet.

The above producer is 1320 feet west of the T. B. Slick Estate's Poetter 1, which flowed 70,000 barrels of oil from the same horizon, but was abandoned due to mechanical difficulties.

Rig is being skidded about 1320 feet west for Poetter 4, W. C. Brown Survey.

Illinois Petroleum Corporation's A. Hartzendorf 1, G. A. Kerr Survey, 1 mile northwest of Pettus in Bee County, is making a production test on pump after perforating in casing at 3648-58 feet in the Pettus sand. It is showing for a small producer.

Goliad County's lone wildcat is holding considerable interest, now coring below 4685 feet. It is R. B. Swiger et al's Carrie Wood 1, George Villa Survey, 2 miles east of the Keystone Royalties Company's Wood 1, which showed for a producer around 5800 feet.

Watch Wildcat

PALACIOS PROSPECT TEST IS ATTRACTING ATTENTION

WEEKLY STAFF REPORT

Houston.—One of the most closely watched wildcats on the Texas Gulf Coast is Glenn H. McCarthy's Foley Land 1, Palacios prospect, L. Goodwin Survey, Matagorda County. The well was drilling below 7950 feet at the end of the week. No information is being given out on the well except the drilling depth. There have been rumors that the well has had up to 45 feet of oil sand and that leases in the area are bringing as high as $125 per acre. One report is that an operator who offered bottom-hole money has been refused just to keep the information a secret. Another report is that one operator has leases in escrow for several days and then will have to surrender the leases. It has been stated that the well entered heaving shale, and the operators are having considerable trouble, but one scout reports that the pumps are not laboring, and does not believe that heaving shale has been encountered. However, all the information gathered on the wildcat is not authentic.

Salt Dome Oil Corporation's Lawrence 1-B, South Cotton Lake area, S. Barrow Survey, Chambers County, was making 2½ barrels of 42 gravity oil and a large amount of gas per hour through 3/16-inch choke with tubing pressure of 2300 pounds and casing pressure of 2100 pounds from Marginulina formation at 6499 feet.

During the past week the casing was perforated from 6497 to 6499 feet with 10 shots, and the well came in flowing 5 barrels hourly through 3/16-inch choke with tubing pressure of 2250 pounds and casing pressure of 2000 pounds. The pressures on the well increased but the amount of oil decreased, and connections on the well froze up. Lawrence 1-B is acting like the first well drilled in the well, and it is generally believed it will eventually be making high gravity distillate.

On the Algoa prospect near Chocolate Bayou, Brazoria County, Beaty, Bowles & Borsodie abandoned Truska 1, H. & T. B. Survey No. 6, at 5592 feet after drilling to 10,083 feet. The hole was plugged back and casing perforated from 5573 to 5592 feet. On a drill stem test the wildcat showed mud and water.

Deep Record for Area

A new deep drilling record has been established on the Texas Gulf Coast by Harrison & Abercrombie in the Old Ocean field. Bernard River Land Company 3, C. Breen Survey, was coring in sand and shale below 10,465 feet at the end of the week, and has encountered a number of sands with oil odors below 10,400 feet. The previous deepest well to be drilled on the Gulf Coast was Shell Petroleum Corporation's Maco Stewart 1, Hitchcock prospect, J. Spillman Survey, Galveston County, which went to 10,460 feet where it attempted to blow out.

Hastings field, Brazoria County, was extended 700 feet east last week when Josey & Bruton completed a producer in the B. B. B. & C. Survey, flowing 24 barrels per hour through ¼-inch choke with tubing pressure of 675 pounds and casing pressure of 600 pounds. Bruton 1 was drilled to 6065 feet in the lower Marginulina-Frio formation. It topped oi lsand at 6047 feet. Seven-inch casing was set at 6048 feet. On the north side of Hastings, Stanolind Oil & Gas Company completed H. H. Ford 10, A. C. H. & B. Survey No. 1, making 598 barrels daily through ¼-inch choke with tubing pressure of 875 pounds and casing pressure of 900 pounds from 6080 feet.

On the southwest side of the Amelia field, Jefferson County, Humble Oil & Refining Company completed Peveto 2, C. Williams Survey, for 24 barrels of pipe line oil per hour through ¼-inch choke with tubing pressure of 1400 pounds and casing pressure of 1325 pounds. Casing was perforated from 6774 to 6781 feet. Gas sand was logged at 6733 feet and the sand showing oil was encountered around 6770 feet.

Humble Oil & Refining Company has made three new locations at Amelia. Freeman 1 is 33 feet south of the north line of Lot 27, Block E, and 241 feet west of the east line of same in C. Williams Survey. Lefler 2 is 285 feet north of south line and 255 feet west of east line of a 10-acre tract in Unit 48 in the C. Williams Survey. Industrial Investment Company 2 is 52 feet south of north line of Lot 3, Block 1, Amelia Heights 3 Addition, and 318 feet west of east line of Lot 3, Block 1, Amelia Heights 3 Addition.

In the Cheek Area, Jefferson County, Humble Oil & Refining Company was drilling below 8389 feet in Jefferson Land Company 1, C. Hillibrandt Survey. Even though the drill stem test from 8162 to 8232 feet looked discouraging, the area still remains very active with leasing. It is understood that major operators are buying in all directions from Jefferson Land Company 1 and are paying from $125 to $150 per acre for leases and royalty.

Rumors have been current in Houston that B. A. Farrell and J. B. Cox et al's Bender Estate 1, west of Humble field, M. W. Travis Survey, Harris County, encountered 4 feet of oil sand at 1182 feet and were preparing to set 6⅝-inch casing for a production test. However, this rumor could not be confirmed at the end of the week.

Silsbee Extended Northeast

Silsbee field, Hardin County, was extended 3100 feet northeast February 26, when Republic Production Company was completing Brooks 7, G. W. Brooks Survey, for a gas and distillate producer from Cockfield sands at 6897 feet. At the end of the week the well was flowing gas, wash water and distillate into the burning pits through 3/16-inch choke with tubing pressure of 1500 pounds and casing pressure of 1000 pounds. Casing was perforated from 6892 to 6897 feet with 10 shots.

Shell Petroleum Corporation was coring on Maco Stewart 2, Hitchcock prospect, J. Spillman Survey, Galveston County, at 4748 feet in sand with no shows at the end of the week. The best showing the well has had was from 4519 to 4525 feet and that was in a broken sand and shale formation. From 4522 to 4523 the well had a good odor and cut of oil.

Diadem Oil Company announced two new locations in the northwestern portion of Dickinson field, Galveston County, last week. Fredricks 1 is 568

TEXAS GULF COAST Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ACE—		
Peyton Brothers, Kirby & West B-2	*	4889
AMELIA—		
Humble, Peveto 2	576	6781
ANAHUAC—		
Humble, Gripon 9	720	7070
White B-10	249	7131
AUSTIN COUNTY—		
W. H. Mitchell, F. Fenner 1, J. Fitzgibbons 1	*	4200
BRAZORIA COUNTY—		
Beaty, Bowles & Borsodie, Truska 1, Algoa prospect, H&TB sur No. 6, dr to 10,083 ft, pb and perforated 5573 to 5592 ft		10,083
BOLING—		
F. Heine, Woytek 20	20	418
CONROE—		
Car Flo Oil Co., Keystone-Garrett 5	465	5050
DICKINSON—		
Humble, Maco Stewart A-14	336	8848
HASTINGS—		
Humble, Warring Flint 1	600	6080
Josey & Bruton, Bruton 1	696	6065
Stanolind, Drake 8	600	6080
Ford 10	598	6080
HIGH ISLAND—		
Stanolind, Cade 60 (perforated 6094-6113 ft)	686	6405
Loustalot A-2	*	4456
LOUISE—		
Pure, Kountz 7	119	5170
MANVEL—		
Burton Drilling Co., Mortgage Co. 2	350	4075
MARKHAM—		
Texas Gulf Prod. Co., McDonald 1	*	4419
NOME—		
Shell, Paggi 4	106	6055
RACCOON BEND—		
Humble, Sherrod 13-X	360	4100
SOUR LAKE—		
Texas Co., Fee 321	72	1874
SOUTH HOUSTON—		
Stanolind, Kelly 2	405	4000
SPINDLETOP—		
Stanolind, McFaddin 70 (wo)	114	2807
TOMBALL—		
Humble, Kobs B-2	¶1½	5559
A. Martins 1	384	5567
WITHERS—		
Texas Co., Pierce Estate C-19	240	5535

*Failures; †Junked; Million cu. ft. gas.

feet west of the east line and 660 feet north of the south line of a 122.9-acre tract in the F. P. Epperson Survey, approximately 2300 feet west of Way 1. Way 2 is 660 feet from the south line and 1180 feet east of Way 1 in the E. P. Epperson Survey.

In the southwestern portion of Dickinson (Gillock) field, Galveston County, Humble Oil & Refining Company completed Maco Stewart A-14, W. K. Wilson Survey, flowing 14 barrels of 38.2 gravity oil per hour through ¼-inch choke with tubing pressure of 600 pounds from 8848 feet. Seven-inch casing was cemented at 8830 feet and 2½-inch tubing was hung at 8738 feet.

189 TEXAS STARTS

Austin.—The Railroad Commission approved last week permits for drilling 189 new wells in Texas, 117 less than were allowed the week before.

West Texas operators filed locations for 109 new wells which included 36 in Winkler, 32 in Ector, and 22 in Ward County. There were 11 locations from the Panhandle.

Gulf Coast operators listed 26 permits, and there were 17 from Southwest Texas.

East Central Texas listed 15 locations, and there was only 1 from the East Texas field, which was for a well located in Rusk County.

West Central Texas reported 11 locations, and there were 2 from North Texas.

Oklahoma City.—A committee of Mid-Continent oil field truck operators met here February 20 to study rates, rules and regulations of operation. Operators from Oklahoma, Kansas, Louisiana, Texas, New Mexico and Colorado were present.

Cocotriz Produces

DISCOVERY WELL FLOWS 781 BARRELS THROUGH CHOKE

Lake Charles.—A new oil field was opened at Bayou Cocotriz, Terrebonne Parish, by Shell Petroleum Corporation on February 20, when Realty Operators 1-B, Section 18-17s-15e, 11 miles west of Houma, came in flowing 38.1 gravity pipe line oil, temperature 98° F., from lower Miocene formation at 9493 feet. On the first 24-hour gauge the discovery well made 781 barrels through a 16/64-inch choke for 4 hours and 14/64-inch choke for 20 hours. Tubing pressure was 1700 pounds and casing pressure 1725 pounds. The well made 518,000 cubic feet of gas. At the end of the week the well was flowing 990 barrels daily through ¼-inch choke with a tubing pressure of 1700 pounds and casing pressure 1675 pounds. Realty Operators 1-B was drilled to 9483 feet and a drill-stem test from 9467 to 9483 feet showed commercial oil. The hole was cored 10 feet deeper to 9493 feet and 2 feet of oil sand was discovered. Top of the oil sand was logged at 9461 feet and 7-inch casing was cemented at 9457 feet with 528 sacks of cement.

Shell and Barnsdall

The Bayou Cocotriz prospect was discovered by reflection seismograph by Shell Petroleum Corporation and Barnsdall Oil Company. The original 22,000-acre block in this area was taken by Barnsdall Oil Company, and half interest in the block was given to Shell Petroleum Corporation for a 10,000-foot test. The first well was abandoned below 10,000 feet. The rig then was moved west and the second well resulted in the discovery well. It is the second deepest producing district in the Louisiana Gulf Coast, being exceeded only by Lafitte field, Jefferson Parish. The Bayou Cocotriz field looms as a major oil field and the first one in over a year.

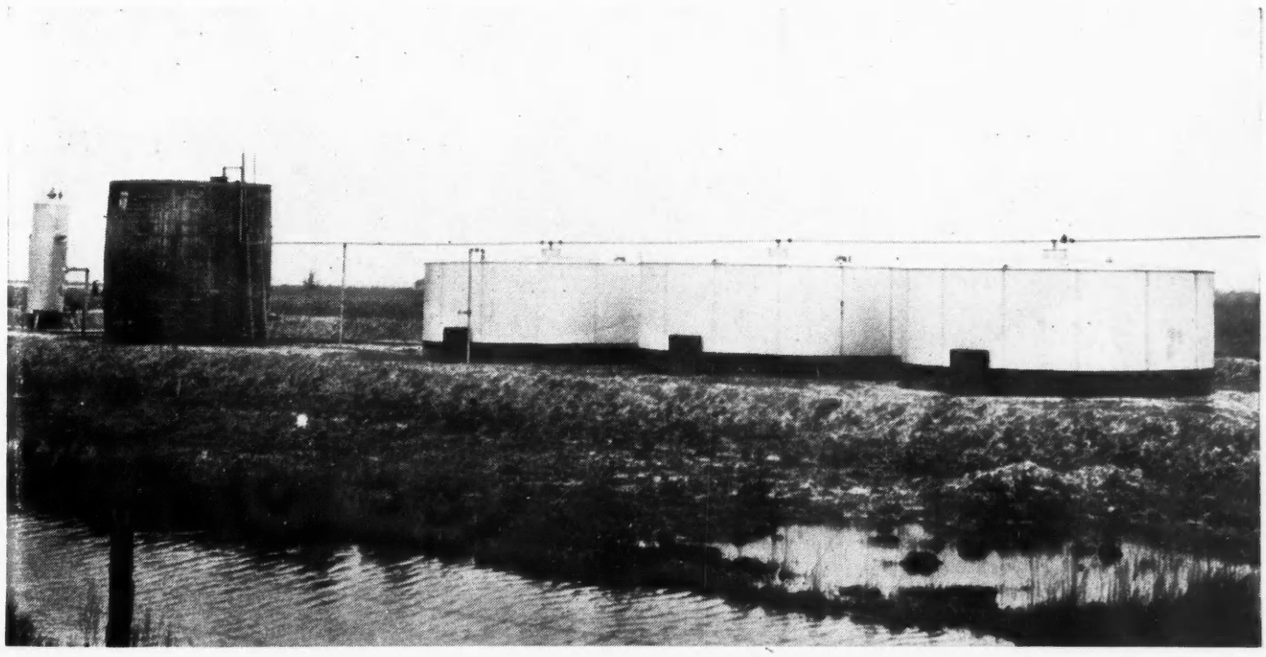
Evidence of a new producing area in the Louisiana Gulf Coast was

SO. HOUSTON ORDER

Austin.—The Texas Railroad Commission has issued a new order on the South Houston field again fixing the allowable on a straight per well basis. The total allowable for the field is 6490 barrels, or 90 barrels for each of the 75 wells.

In August, 1935, the commission issued an order providing for an allowable fixed on acreage and potential. This order was not put into effect until January 1, 1937. After operators had observed the effect of this order, protests were filed with the commission, and a hearing has been called for March 15 at Austin, at which time the subject will be reopened.

Meanwhile, the commission's order issued last week is retroactive to February 1 and will continue in effect until a new order has been issued.



Three 1000-barrel and one 750-barrel storage tanks used on Stanolind Oil & Gas Company's lease at Turtle Bay, Chambers County.

shown February 23 when Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Calcasieu National Bank 1, China prospect, Section 28-7s-3w, Jefferson Davis Parish, blew out from the Vicksburg formation and showed a large gas pressure. The well blew wild for four hours until the hole bridged. While blowing wild the test showed gas and mud. At the end of the week the crew was cleaning up around the derrick and was preparing to go back in the hole and clean out before coring ahead.

The hole was drilled to 9139 feet and logged top of the gas sand at 9137 feet before it blew out. Sand showing oil and gas had been encountered from 7596 to 7601 feet and from 7603 to 7619 feet a salt water sand was cored. A sand from 8965 to 8995 feet contained a gas and oil odor and from 8995 to 9020 feet a salt water sand was topped which had a slight showing of gas.

Calcasieu National Bank 1 was spudded December 27, 1936, and 13⅜-inch casing was cemented at 1971 feet. Discorbis was logged at 6311 feet, Heterostegina 6647 feet and the Marginulina at 7105 feet. The well is west of Tepetate field, Acadia Parish, and is reported to be running over 200 feet higher structurally than any well at Tepetate.

The Texas Company's State Fausse Point 2, Fausse Point area, Section 35-11s-8e, Iberia Parish, may be considered as the discovery of a new oil field. At the end of the week a production test was underway at 6553 feet. Casing was perforated from 6303 to 6553 feet with 250 shots and 2½-inch tubing was hung at 6091 feet. The well came in flowing 32 barrels of 34.6 gravity oil in 14 hours through a ⅜-inch choke and no pressure was shown on the tubing or casing. The next day the well made 32 barrels of pipe line oil every 1½ hours and the following day it made 25 barrels of oil and mud every hour and fifteen minutes. Troube with shale in the hole may be the reason for the well not flowing and an effort is being made to get it to flow naturally.

The reason it is stated that The Texas Company's State Fausse Point 2 may open a new field is because the field has produced oil and then was abandoned. Union Sulphur Company discovered the field when Shaw Fee 1 came in for 200 barrels daily from 1394 feet in February 1927. Out of 20 wells drilled in the area only 3 have shown oil and the balance abandoned. The 3 wells produced approximately 11,810 barrels. If State Fausse Point 2 makes a commercial producer it will revive drilling in the old area.

Calcasieu Blowout Threatened

On the Northwest Starks prospect in Calcasieu Parish, D. & D. Oil Company's Lutcher Moore 1, Section 1-8s-13w, threatened to blow out at 7013 feet and showed considerable oil and gas on the mud pits. Heavy mud was pumped into the hole and it was brought under control. An electrical logging device failed to show anything of commercial value. The hole will be carried on down and may test the Cockfield formation. Vicksburg was encountered at 6727 feet.

Second at Charenton

The second well was completed in Charenton field, St. Mary Parish, which extended the field southwest. Pan American Production Company's Lawes Realty Company 2, Section 30-13s-10e, was completed at 7194 feet in the Miocene, flowing 20 barrels of pipe line oil per hour through 3/16-inch choke with a tubing pressure of 2700 pounds and casing pressure of 1600 pounds. Top of the main oil sand was logged at 7184 feet and a drill-stem test at that depth showed 1100 feet of 36.5 gravity oil in five minutes. Casing was cemented on bottom. This is Pan American Production Company's first well to be drilled in the Charenton field since taking over the producing properties from Mike Hogg and associated. The operators made location for Lawes Realty Company 3, 1766 feet north and 467 feet west of the southeast corner of Section 25-13s-9e.

Another producer was completed at Jeanerette, St. Mary Parish, last week by Herton Oil Company. Banta 7, northeast of Banta 4, Section 40-13s-9e, came in flowing 835 barrels of 36.8 gravity oil daily through a ¼-inch choke with a tubing pressure of 1575 pounds and a gas/oil ratio of 1109 to 1. The well was completed in sand showing oil from 6638 to 6646 feet. Seven-inch casing was cemented at 6635 feet.

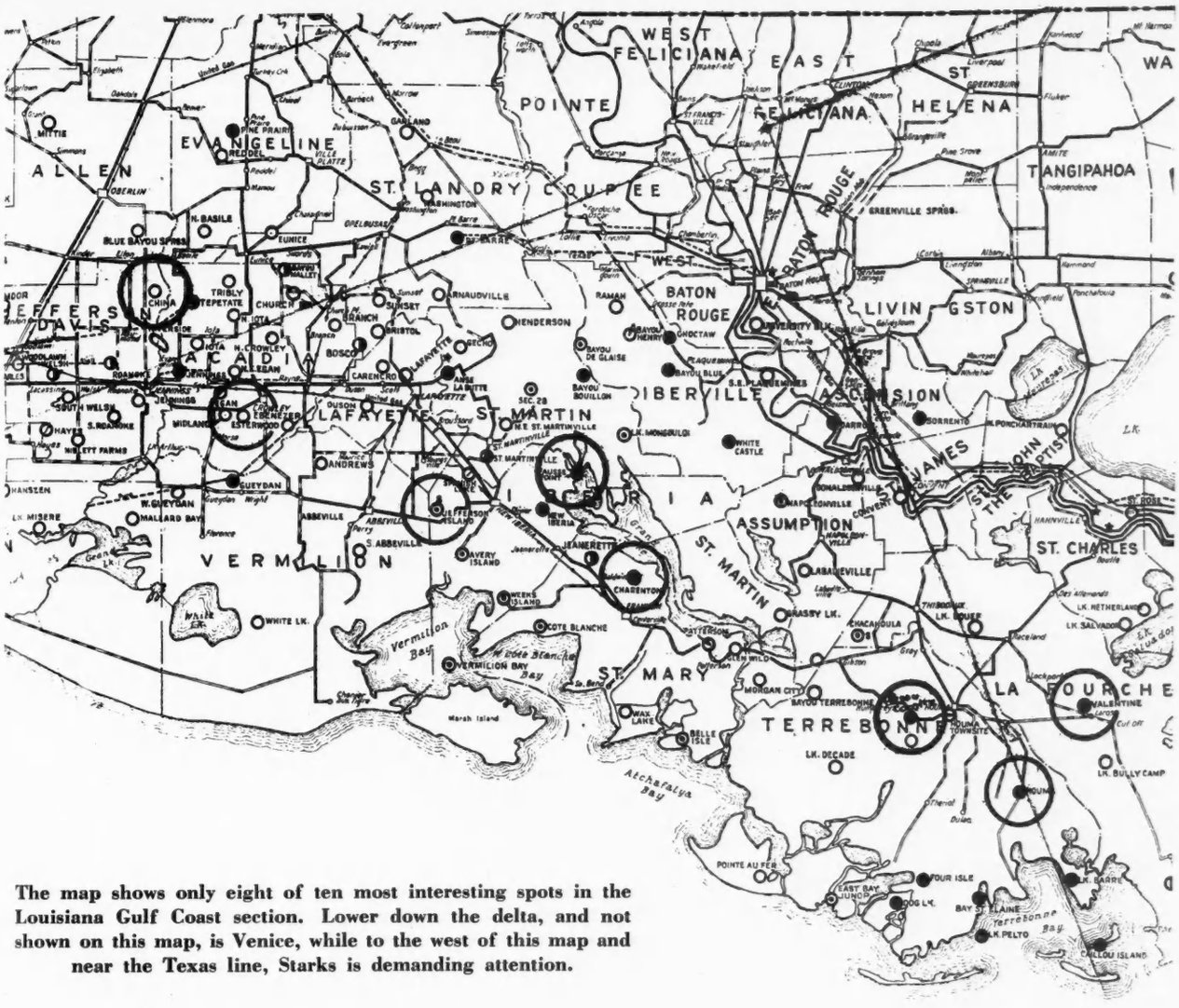
A drill-stem test will be made on Teche Oil Company's Matilda Plantation 1, south offset to Herton Oil Company's State Bayou Teche 1, Section 70-13s-9e, at Jeanerette field. An electrical logging device was run to 7263 feet in sand showing oil, which was topped at 7253 feet.

The Texas Company's 10,000-foot test in Vermilion Bay, State Vermilion Bay 1, Section 20-15s-6e, Iberia Parish, was abandoned last week at 10,622 feet after failing to find any evidence of commercial production. After doing geophysical work in the hole for two or three weeks it was decided to plug the hole.

On Venice dome, Plaquemines Parish, Tide Water Associated Oil Company was coring in sandy shale showing gas at 7226 feet at the close of the week. Several sands have been cored which have shown oil and gas. The well will be carried down to an undetermined depth and casing will probably be set and perforated for a production test.

The second well is nearing completion at Valentine field, Lafourche Parish. Pan American Production Company's Harang 2, northwest of the discovery well, Section 8-17s-20e, was coring oil sand at 6770 feet at the end of the week after topping the sand at 6760 feet. The well will probably be cored down into the main sand and a drill-stem test made before a production test is attempted. If the well is a pro-

The Texas Company's camp at Lafitte, Jefferson Davis Parish, has a Venetian air. The street is a canal and the houses are on concrete piles to raise them above the water level.



The map shows only eight of ten most interesting spots in the Louisiana Gulf Coast section. Lower down the delta, and not shown on this map, is Venice, while to the west of this map and near the Texas line, Starks is demanding attention.

ducer it will extend production northwest.

At South Jennings in Jefferson Davis Parish, H. M. Naylor's Johnson-Bourdreaux 1, Section 39-10s-3w, was abandoned at 9008 feet after running an electrical logging device. No shows of importance were recorded. The wildcat topped the Discorbis at 8860 feet.

Humble Oil & Refining Company's Nordyke 1, Ebenzer prospect, Section 23-10s-3e, Acadia Parish, was fishing at 8492 feet after losing part of the coring instrument in the hole. A sand with an odor of oil and salt water was cored from 8253 to 8263 feet. Nordyke 1 is located east of the same company's American Rice Milling Company 1 which was abandoned at 9308 feet some time ago. The abandoned well had several showings of oil and at one time was classed as the discovery well for a new field.

Record Casing String

A new record for setting 9⅝-inch casing was set by Humble Oil & Refining Company in Terrebonne Parish. The company's Elender 1, Houma Gas field, Section 23-19s19e, set a string of 9⅝-inch casing at 8735 feet. This is the longest string of this size casing ever set in the Gulf Coast, although a longer string of 7⅝-inch pipe has been set. Elender 1 looms as the discovery well for a new field in this area as an electrical logging device showed good signs of possible production from 8100 to 8450 feet.

Continental Oil Company has encountered trouble in fishing for 30 feet of tubing in Hebert 1, Abbeville Prospect, Section 20-12s-3e, Vermilion Parish. At the end of the week the crew was cutting and pulling the casing. Tubing was run to 11,735 feet and was pulled and was then lodged in the hole.

Southeast of Abbeville, Drunella Oil Company abandoned Caldwell 1, Section 41-13s-4e, at 8105 feet after running an electrical logging device.

Jefferson Lake Oil Company's Lake Peigneur 414, Lake Peigneur prospect, 12s-5e, Iberia Parish, was in broken salt at 6585 feet after having topped the formation at 6514 feet. The last 75 feet of the broken formation showed oil. A core from 6375 to 6430 feet showed sand and pyrite with a good odor of oil. Lake Peigneur 414 is considered a high well and picked up the sand that was found in Lake Peigneur 274 around 250 feet higher. Lake Peigneur 274 found the sand from 6840 to 6850 feet.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CHARENTON—		
Pan American, Lawes 2,.....	480	7194
GILLIS—		
Union Sulphur, Bel 2.....	*	8290
State 7	*	lcn
State 10	*	lcn
State 15	*	lcn
JEANERETTE—		
Herton Oil Co., Banta 7.....	835	6646
LEEVILLE—		
Gulf, City of New Orleans 4.....	300	3690
Lincoln Oil Co., Bernard 1.....	*	6205
NEW IBERIA—		
Canal Oil Co., Barnard 6.....	580	4562
SULPHUR—		
Union Sulphur, Fee 799, (wo), Old completion depth 2996 ft.....	756	3216
Fee 843	*	5224
TEPETATE—		
Continental, Homeseekers D-1.....	*	8342
P. O. Johnson 2.....	274	8317
IBERIA PARISH—		
Texas Co., State Vermilion Bay 1, in Vermilion Bay, 20-15s-6e	*	10622
JEFFERSON DAVIS PARISH—		
H. M. Naylor, Johnson-Bourdreaux 1, South Jennings area, 39-10s-3w	*	9008
TERREBONNE PARISH—		
Shell, Realty Operators 1-B, 11 mi w of Houma, 18-17s-15e,.....	781	9493
VERMILION PARISH—		
Drunella Oil Co., Caldwell 1, se of Abbeville, 41-13s-4e	*	8105

*Failures; †Junked; ¶Million cu. ft. gas.

Two Marion Tests

STILL HOLD INTEREST IN RODESSA DEVELOPMENT

WEEKLY STAFF REPORT

Shreveport.—Chief interest in Rodessa operations again last week was centered in two Marion County, Texas, outposts, one of which was arranging to re-test and the other drilled as a "tight" well with reported saturation in the Hill and Gloyd horizons, setting a final string of casing.

The former well is Holcomb, Thomason, Flesh and Hootkins' Lizzie Henderson 1, R. Bennington Survey, 14 miles outside Rodessa production, which was washing hole Thursday in an effort to re-complete the well as an oil producer after it blew in suddenly a fortnight ago as a 40 to 60 million foot gasser after having casing perforated for a second time in an effort to increase the flow of oil. The second perforation was from 5974 to 5984 feet, the first having been from 5985 to 5996 feet. The casing was re-cemented after it blew in as a gasser. Cement plugs were drilled out Wednesday night. Operators were planning to circulate oil after the washing was completed, and then the well will be swabbed.

The other Marion County test is Arkansas-Louisiana Gas Company's W. S. Ford 1, Charles Grayson Survey, 9 miles southwest of Rodessa production, which after going 50 feet into black shale in the Glen Rose and reaching total depth of 6351 feet, had 7-inch casing cemented at 6301 feet with 528 sacks of cement with cement plug at 6201 feet. When this well will be tested is doubtful.

In the meantime, Arkansas-Louisiana Gas Company's Laura McIntosh 1, William Edmonson Survey, Marion County, was drilling below 2500 feet after logging top of the Nacatosh at 1870 feet; elevation is 272 feet. In the same County, Dunn & Fisher's Susie Chatten 1, A. de los Santos Coy Survey, spudded and set 250 feet of surface casing. In the area around the Lizzie Henderson 1 H. L. Hurt, Atlantic Oil Producing Company and Seaboard Oil Company are buying leases.

J. Edward Jones was perforating casing Thursday in Maidie Sharpe B-1, SE NW 4-20n-16w, north of a supposed lateral fault, after it was found that 30 feet too much casing had been cemented in the well, whose total depth is 6045 feet.

Deepen Rodessa Well

Plans were revealed last week for the deepening of a Glen Rose producing well in the Rodessa field to the Travis Peak in Marr & Perkins' Hunter 5, NW SW 13-23n-16w, Caddo Parish, in the heart of the field.

Meanwhile in the northwest offshoot of the Louisiana side of the field, geologists identified a new sand in the Glen Rose below the anhydrite in two outpost tests. The sand, following the procedure of naming sands for lease owners, has been named the Mitchell sand. It appears just above the Gloyd sand. This sand was identified as having been logged at 5980 to 6000 feet in J. Edward Jones' Maidie Sharpe B-1, SE NW 4-23n-16w, with the true Gloyd now identified as topped at 5934 feet, thus making the Mitchell sand come between the Gloyd and the Dees.

Standard Oil Company of Louisiana's Parker 1, SE NW 9-23n-16w, in the same area, logged massive anhydrite from 5415 to 5662 feet, topped the Hill at 5810 feet and topped the Mitchell at 5953 feet, and is coring ahead.

An early well on the north edge of production in the northeast offshoot of the field plans to test saturation in the Woodbine that was logged in Lion Oil Refining Company's John M. Wynn 6, Section 9-23n-15w. Although 24 feet of saturation was topped at 3541 feet, it was not tested in this well which was completed in the Glen Rose. It was in this section that Blackwell Oil Company found a new sand in the Glen Rose, the Neugent sand, which is a true quartz sand, differing from the Hill, Gloyd, Dees and Young in the main part of the field.

Showings in Travis Peak

Possibility of gas-distillate production in the Travis Peak in three different wildcat areas of North Louisiana appeared assured last week with showings in this horizon in the Driscoll and Bear Creek districts of Bienville Parish and the Sibley district, Webster Parish.

The Driscoll area has one gas-distillate well producing from the Glen Rose, and Sibley has three gas-distillate producers in what corresponds to the Gloyd horizon of the Glen Rose at Rodessa.

In the Driscoll area, Lide, Greer and Associates' J. D. Smelley 1, SW NE 13-16n-5w, ¾ mile south of the same operators' Davis Lumber Company 1, Section 12-16n-5w, the gas-distillate well in the Glen Rose, showed for an estimated 50,000,000 cubic feet of gas and some distillate in a drill stem test in the Travis Peak formation from 7163 to 7193 feet through ⅜-inch choke on top and bottom, the testing tool being open 10 minutes. Later in a test from 7205 to 7240 feet, although the seat slipped, the well tested an estimated 30,000,000 cubic feet. It is coring at 7250 feet in the hope of finding an oil-bearing horizon in the Travis Peak. Arkansas-Louisiana Gas Company owns the gas rights on this block.

In the Bear Creek district of the same parish, Texas-Seaboard Oil Corporation, in McGee 1, Section 3-15n-6w, after going to total depth of 8017 feet after cementing 7-inch casing at 7537 feet, perforated casing at 7323 to 7333 feet, at 7345 to 7355 feet, and at 7448 to 7462 feet, and tested an estimated 75,000,000 cubic feet of gas with a spray of distillate. Operators are now arranging to perforate at 6682 to 6700 feet.

In the Sibley district, Webster Parish, Standard Oil Company of Louisiana logged 8 feet of formation in the upper part of the Travis Peak showing gas and distillate saturation from 6966 to 6974 feet, and is coring ahead in red and blue shale with streaks of lime at 7040 feet. Top of the Travis Peak was 6881 feet.

Sligo Gets Third Oil Well

The Sligo field, Bossier Parish, added its third oil producer from the Petitt horizon in basal Glen Rose last week when United Gas Public Service Company's Skannal H-1, NE SE 26-17n-12w, was completed at 5144 feet. Elevation is 165 feet and top of the Petitt was 5120 feet. It extended the oil producing limits of the Petitt ho-

RODESSA OUTPUT

Shreveport.—Accumulated production from the Rodessa field to February 15 was 26,425,231 barrels, of which 22,100,345 barrels was produced on the Louisiana side. Total producing wells completed to that date were 551, of which 348 were on the Louisiana side and 203 on the Texas side.

Daily average production by companies on that date, with number of producing wells, follows:

OPERATOR	NUMBER OF WELLS			DAILY AVERAGE PRODUCTION		
	Louisiana	Texas	Total	Louisiana	Texas	Total
American Liberty Oil Company	3	23	26	549	3,370	3,919
Arkansas-Louisiana Gas Company	28	...	28	1,525	.....	1,525
Magnolia Petroleum Company	34	53	87	10,906	10,230	21,136
Ohio Oil Company	...	8	8	.....	1,887	1,887
Phillips Petroleum Company	26	13	39	4,602	2,996	7,598
Standard Oil Company of Louisiana	55	...	55	6,663	.....	6,663
Tidewater Associated Oil Company	13	3	16	154	636	790
The Texas Company	...	12	12	.....	2,700	2,700
United Gas Company	123	53	176	20,250	9,884	30,184
Miscellaneous	66	38	104	4,676	6,526	11,202
Total	348	203	551	49,325	38,229	87,554

rizon ½ mile south, being that distance from the same company's Skannal F-1, the first oil well in the field. After flowing 5 barrels of oil per hour through ⅛-inch choke, the well was shut in awaiting erection of tankage. Casing pressure was 900 pounds and tubing pressure 200 pounds.

Leasing Activity

The Texas Company is reported to have bought the mineral rights on approximately 25,000 acres of land owned by the Wayne Land & Timber Company in townships 15 and 16 north, ranges 4 and 5 east in Ouachita and Richland parishes.

In Grant Parish H. D. Conley of Shreveport is reported to have leased approximately 12,000 acres centering around Section 49-6n-3e, for a proposed 6,000-foot test.

Leasing continues active in the newly discovered Lisbon field, Claiborne Parish. Arkansas-Louisiana Gas Company has been leasing around Section 2-21n-5w, T. L. James in Section 32-21n-4w, and Magnolia Petroleum Company in Section 31-21n-5w and 28-21n-4w. In Bienville Parish, Seaboard Oil Corporation paid renewals on a large block centering around Section 25-14n-6w. In Caddo Parish R. W. Williams has been leasing around Section 21-21n-15w, and also in township 18 north, ranges 11 and 12 west, Bossier Parish. T. L. Weaver took 200 acres in Section 33-21n-15w, Caddo Parish.

North of the old Haynesville shallow field in Claiborne Parish, H. L. Hunt has been leasing in township 23 north, ranges 7 west and in the same parish Mid-Continent Petroleum Company has been leasing in township 22 north, range 6 west.

In Webster Parish H. W. Bass is adding to leases he has around Section 21-20n-9w, and Paul L. Miller of Kilgore has been leasing around Section 4-20n-10w. He has about 3,000 acres.

MAKING WATER

Shreveport.—Ninety-one wells in the Rodessa field are showing various amounts of salt water ranging from a fraction of 1 percent to as high as 92 percent in one well, the latter on the Louisiana side. Of these wells, 79 are on the Louisiana side and 12 on the Texas side. The highest salt water showing on the Texas side is 65 percent salt water in H. L. Hunt Inc.'s I. N. Shelton 1, James Davenport Survey, an edge well to the west.

Shreveport.—Thirteen drilling permits were issued last week by the minerals division, Louisiana Conservation Commission, of which 7 were for North Louisiana, divided among the following parishes: Claiborne 4, all for the New Lisbon field; Caddo 1, in Rodessa; DeSoto 1; Ouachita 1. Those in South Louisiana were divided among the following parishes: Calcasieu 1, Cameron 1, Jefferson Davis 1, St. Martin 1, St. Mary 1, Terrebonne 1.

March Allowable

RODESSA IN LOUISIANA NOT CHANGED; STATE TOTAL UP

Shreveport.—The March allowable for the Rodessa field was placed at 50,000 barrels daily, the same allocation as for February in an order promulgated last week by the minerals division, Louisiana Conservation Commission. The rest of North Louisiana was given 22,500 barrels for March, the same as for February. Louisiana's total allowable for March was placed at 236,000 barrels, an increase of 300 barrels over February, the increase going to south Louisiana, whose allowable for March is 163,500 barrels.

Allowable changed for South Louisiana fields for March are: Darrow, 1,900 barrels, increase 200 barrels; Evangeline, 4,000 barrels, increase of 500 barrels, and West Hackberry, 2500 barrels, increase of 750 barrels. The allowable for March was reduced from the February figure for the following south Louisiana fields: Leeville reduced 1,000 barrels; Starks, reduced 650 barrels, and Sulphur Mines, reduced 250 barrels.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)		
See under East Texas Completions		
RED RIVER (Bull Bayou)—		
Gulf, Kennedy 5, 24-13n-11w.....	30	2550
WEBSTER PARISH (Cotton Valley)—		
Magnolia, Ira Cox 5, 23-21n-10w, ¶6 & 644		8635
WEBSTER PARISH (McIntyre)—		
Tide Water Associated, L. Pipes 1, 1, 10-18n-10w	6	6784

*Failures; †Junked; Million cu. ft. gas.

Shreveport.—A. H. Meadows and J. W. Gilliland have purchased the interest of R. G. Trippett in General American Oil Company, which has headquarters in Shreveport. The company owns 225 wells in East Texas. Trippett, who owned about 30 percent of the stock in the company, will remain as a director but will be succeeded as president by Gilliland. Meadows and M. E. Wilson will continue as vice presidents. Besides the producing properties, the company owns several gasoline plants and refineries in the East Texas field.

That Would Be The Hell of It!

A Portland Cement man likes to tell a yarn about a wealthy chap who went to hell. His Satanic Majesty promptly rolled out a fine automobile for his guest. "Where are the highways?" demanded the rich man. "That's just the hell of it!" retorted the Devil. And the rich man probably felt like a well-digger in a country with a 20,000 barrel sand 6,000 feet deep — but no PELCO supply store.

PELICAN

WELL TOOL & SUPPLY COMPANY

SHREVEPORT, LOUISIANA

Lake Charles—Houma—Converse
New Iberia—Rodessa—Monroe—Cotton Valley—Turnertown—Greggton—Houston

TEXAS LAND BILL

Austin.—A bill intended to clarify Texas Land Laws and reduce the number of vacancies has been introduced in the Texas Legislature.

The measure provides that the Court shall regard original survey lines as the governing factor in determining the locations of lands, and that "In all cases of office surveys or in all cases where lines or corners of a senior survey or surveys are called for by protraction, it shall be conclusively presumed that it was the intention of the surveyor and of all other parties connected with the grant" to include "all lands extending to such lines . . ."

Let's Stop WAR!

It is almost universally agreed that there will never be another war if any way can be devised to preclude war profits to all firms and individuals. Industry must take the initiative. If you operate a factory, large or small, will you take this solemn pledge?

"The manufacturing facilities of this organization shall never be used, of our own volition, to make war materials or supplies for our own or any other government. And if conscripted by law, we solemnly pledge ourselves to refuse any profit therefrom."

Don't be a peace-time SLACKER!

For further details address:

AMERICAN INDUSTRIAL PEACE ASSOCIATION

P. O. Box 1080

SHREVEPORT, LA.

Shreveport.—North Caddo Refining Company has contracted to buy 6,000 barrels of Rodessa crude from Caddo Pipe Line Company, the oil to be delivered at the rate of 500 barrels daily. Tide Water Associated Oil Company has temporarily shut down its gasoline plant at Rodessa, due it is said, to an insufficient gas supply.

TEST IS SALT

Try for Permian oil at Snow Hill set back

ARKANSAS — WEEKLY STAFF REPORT

El Dorado, Ark.—Hope of getting production in top of the Permian lime in a test a quarter of a mile north of the nearest gas producer in this horizon in the Snow Hill district, Ouachita County, Arkansas, was given a set-back last week when Lion Oil Refining Company's Levy 1, Section 21-15-15, tested salt water in two drill-stem tests in the Permian lime topped at 4937 feet. One test was made from 4925 to 4943 feet and the other from 4935 to 4960 feet. The test is coring ahead at 5160 feet in oolitic lime. On top of the from 4925 to 4943 feet and the other from Phillips Petroleum Company's Permian lime discovery well in Section 27-15-15.

Benedum & Trees Oil Company's Block 1, NE SE 9-14-20, Nevada County, designed for a Travis Peak test in the new Troy field, tested salt water with a show of oil at 4228 to 4232 feet and is coring ahead. The same company's Groves 5, SW NW 10-14-20, was completed in the Tokio pumping an estimated 300 barrels of fluid daily at total depth of 2137 feet, 50 percent water. It is being gauged. The same company's Mary Jackson 1, NW NE 9-14-20, in a drill-stem test from 2131 to 2138 feet showed 990 feet of oil in 32 minutes and will be completed in that horizon.

El Dorado, Ark.—Two drilling permits were authorized last week by the Arkansas Board of Conservation, as follows:

Grant County—Wallace & Staples, Hot Springs, Arkansas, W. F. Davis 2, located 125 feet north and 375 feet west SEc SE NW 23-6-15.

Union County—Arkansas Southern Oil Company, Inc., El Dorado, Arkansas, G. G. Simmons 1, located 200 feet south and east NWc 15-18-13.

ARKANSAS

Completions

Company, Well and Location		Init. Prod. Bbls.	Depth
GRANT COUNTY—			
Wallace & Staples, W. F. Davis 1, 23-6-15	†	2585	
HEMPSTEAD COUNTY—			
Easton, May et al, Conway-Tiller 2, 34-12-27	*	3246	
Root Pet. Co., Jones 1, 16-13-23..	†	4515	
POPE COUNTY—			
Ark.-La. Gas Co., Smith 1, 10-8n-21w	*	4790	
PULASKI COUNTY—			
A. L. Kitselman, Fee 1,2-1s-13w....	*	788	

*Failures; †Junked; Million cu. ft. gas.

REVIVE SEARCH

Mississippi salt dome spurs work on "trend"

SOUTHEASTERN STATES

Jackson, Miss.—Seeking production in the "Conroe Trend" in south Mississippi, interest in which has been revived by discovery of a salt dome in Lamar County, Mississippi, recently, J. P. Wemple, Trustee, representing the North Central Texas Oil Company (F. M. Carmody and associates) of Shreveport, last week started moving in rig for a proposed 5200-foot test, 6 miles north of Gloster, Amite County, at Southern Forest Land Company 1, SW SW 29-4n-2e. The location is on a 30,000-acre block. The Cockfield will be penetrated.

Fred E. Courson has blocked 10,000 acres in Franklin County, south of the town of Bude, south Mississippi.

Joe Modisett and associates are moving in materials for McCorvey 1, SEc SW SW 20-9n-2w, Choctaw County, Alabama, on the Hatchetigbee Anticline for a proposed 8,000-foot test on a block of over 20,000 acres. Phillips Petroleum Company which had sub-surface work done using the base of the Tallahatta as a marker in this area has an interest in this block.

Phillips Petroleum Company has moved 4 torsion balance units into south Mississippi to work on the 200,000 acres in Lamar, Jones, Marion and Perry Counties on which this company recently secured a geophysical option. The crews are using Hattiesburg as a base of operations. Seismograph will also be used in the exploration work.

Amerada Petroleum Corporation has a shooting unit working in Tallahatchie County, north Mississippi, east of Charleston. Petty Geophysical Engineering Company has a reflection crew working in Hinds County, near Edwards. United Gas Public Service Company has sent a geophysical unit to Mobile, Alabama. Independent Exploration Company has a unit working near Waycross, Georgia.

ALABAMA FAILURE

Mobile.—Arkansas Fuel Oil Company last week abandoned McClure Pine Company 1, SE NE 4-5n-2w, Washington County, southwest Alabama, as a dry hole at 6112 feet.

In Houston County, Rice Oil & Drilling Company is drilling shale and gumbo in the Tuscaloosa sand at 4975 feet in Oakley Estate 2, NW SW 9-3n-29e.

ALABAMA

Completions

Company, Well and Location		Init. Prod. Bbls.	Depth
WASHINGTON COUNTY—			
Arkansas Fuel Oil Co., McClure Pine Co. 1, 4-5n-2w	*	6112	

*Failures; †Junked; Million cu. ft. gas.

Powder Wash Sand

YIELDS GOOD INITIAL; LEASES ARE IN DEMAND

Casper, Wyo. — Deepening further into the Upper Wasatch, a second and shallower sand discovery in the recently proved Powder Wash field, Moffatt County, northwestern Colorado Mountain Fuel Supply Company made an excellent completion in Hal Stewart 1, CSW SW 32-12n-97w.

The well gauged 77 barrels in 30 minutes through 10¾-inch casing set at 3805 feet with the hole bottomed in the sand at 3113 feet. Awaiting additional tankage, the well will be given a more thorough test.

Hal Stewart 1 is the second oil well completed on Powder Wash. The discovery, Carl Allen, CNE SW SE 32-12n-97w, three quarters of a mile to the northwest, completed late in November for the first commercial oil production developed in rocks of the Tertiary Age in the Rocky Mountain division and for that division's most important 1936 oil strike. The well flowed 1120 barrels initial from the lower Wasatch at 5012-32 feet.

Oil at Powder Wash tests 40 degrees gravity on the Baume scale. Because of its high paraffin content it congeals to jelly like consistency within a few minutes exposure to the air. When sufficient production is developed at Powder Wash, company contemplates erecting a de-waxing plant and laying a pipe line to Rock Springs, Wyoming, railhead on the Union Pacific, 75 miles to the northwest.

Much Leasing

Considerable leasing has taken place in northwestern Colorado and east into southwestern Wyoming following an east-west trending uplift the Cherokee Ridge anticline, on which Powder Wash is a superimposed high. S. Marvin James and C. E. Bivens of Denver this week announced that a contract had been closed with a California concern to drill on the west end of the Baggs structure on the eastern end of the Cherokee fold in Carbon County, southern Wyoming.

James and associates have leased more than 65,000 acres covering highs between Powder Wash and Baggs. Several years ago the Red Feather Oil Company drilling a test in the SE SW SW 35-13n-92w, developed 5,000,000 cubic feet of gas daily at 765-930 feet in the sandy chert on the Baggs structure. On deepening the well to 2160 feet a 25,000,000 cubic foot gas well was developed, but has been shut in for market.

Mountain Fuel Supply Company has leased extensively in an area 20 miles in length east from Powder Wash between the Cherokee Ridge uplift and a parallel uplift four miles to the south, the Look-Out Mountain arch. The Powder Wash structure is located in the narrow structural basin between the major anticlines. Powder Wash structure has a closure of around 75 feet with dips in all directions from one to three degrees. The structure is less typical of the Rocky Mountain sharp folded anticlines and more similar to the Mid-Continent structures, The California Company has leased several thousand acres to the northeast and southwest of Powder Wash.

Twenty miles southwest of Powder Wash, Phillips Petroleum Corporation and Anderson-Kerr Drilling Company's Government 1, CSE SE 9-19n-99w, a recent test started on the Dry Mountain structure, Moffat County, is drilling at 250 feet. From present leasing activity observers expect the drilling of six or more tests ruring 1937 in Cherokee Ridge area.

Deep Test for Billy Creek

Carter Oil Company will drill a deep test of the Billy Creek structure, Johnson County, north central Wyoming, on or shortly after April 1. This marks the first drilling activity of the operating subsidiary of Standard Oil Company of New Jersey in Wyoming since 1928 when it completed State 2, SWc 16-48n-82w, a flank well on the Billy Creek structure for 120 barrels daily pumping from the Frontier at 3240 feet. Heretofore 11 gas wells had been completed on Billy Creek in the Frontier.

The deep test will go to around 5000 feet to test the Sundance formation and possibly 6000 feet for an Embar-Tensleep test. Gas from the field is marketed to Buffalo and Sheridan, Wyoming by the Minnesota Northern Power Company. A 48 mile six inch line runs north to Sheridan.

Lease sale of 480 acres of tribal lands in the Plunkett structure, Shoshone Indian Reservation, Fremont County, west central Wyoming, was announced by Forrest R. Stone, superintendent of the Agency. Sale will be held March 9 in the office of the agency at two o'clock in the afternoon.

In the Lance Creek field, Niobrara County, eastern Wyoming, Ohio Oil Company's Lamb 9, CSE¼ NE¼ 5-35n-65w, made an excellent completion. Well flowed 51 barrels in 30 minutes open through the seven-inch string set at 4050 feet with hole bottomed in basal Sundance at 4072 feet. Ohio's Leo 5-OPC-16, NW NW SW 35-36n-65w, a mile east of the nearest Sundance production in Lance Creek, is drilling at 993 feet. The 12½-inch casing is set at 160 feet. Company's Carrie Putnam 7, NE SW 33-36n-65w, an inside location, is drilling at 3898 feet in sale break with top of the First Sundance at 3771 feet.

J. M. Huber Corporation is moving in rotary equipment for Midwest 1, SE SW 27-36n-65w, an old First Sundance sand gasser at 3445 feet completed several years ago and considerably to the northeast of oil production. It will deepen for an oil test in the basal Sundance.

A. B. Cobb's Nat Novick 1, NE SE SW 6-35n-65w, outside location on the west side of this field, is cementing seven inch at 3445 feet to sidetrack two joints of drill pipe, collar and bit, and will deepen from 3551 feet.

Continental Oil Company's Schuricht 3-B, CSE SE 6-35n-65w, is building rig. This is an important inside location spotted in the center of the 40-acre tract to the south of Continental's Schuricht 4-A, CNE SE 6-35n-65w, which made Lance Creek's largest 1936 completion with 5233 barrels of oil and 3,430,000 cubic feet of gas daily at 3957 feet. The well in the southwestern portion of the field points to extension of Sundance limits to the southwest.

Argo Oil Company's Ford 3, SW NW 33-36n-65w, is waiting on special packer to reduce the gas-oil ratio before completing. On short swabbing tests the well is rated better than 1000 barrels daily. The well has the basal sand at 3968-90 feet.

Rock River Test in Embar

Deepening well to the untested Pennsylvanian series in the Rock River field, Carbon County, south central Wyoming, Ohio Oil Company's Harrison-Cooper 7, CNW 2-19n-78w, is drilling in the Embar, its first objective at 5555 feet. The Embar, topped at 5300 feet, carries oil near it in many Wyoming structures. Just below the Embar is the Tensleep sand, which was recently proved for oil production in the Wertz field, 70 miles to the northwest in Carbon County.

Ohio's Harrison-Cooper 1, SE SW 35-20n-78w, another old Dakota producer deepening at Rock River, is cor-

MOUNTAIN STATES Completions

WYOMING

Company, Well and Location	Init. Prod. Bbls.	Depth
NIOBRARA COUNTY (Lance Creek Field)—		
J. M. Huber Corporation. Joss 2, ne ne sw 6-35n-65w	150	3989
Ohio Oil Co. Lamb 9, cse ne 5-35n-65w	2448	4072
ALBANY COUNTY (Quealy Dome Field)—		
California Co., Holst 5, se ne se 13-17n-77w	150	3674
NIOBRARA COUNTY (Lance Creek Field)—		
Continental, Schuricht 5-A, cnw sw 5-35n-65w	1440	3941

*Failures; †Junked; ¶Million cu. ft. gas.

ing in oil saturation in the Sundance sand at 3225 feet. The Sundance was topped at 3190 feet. The Rock River field has produced more than 16,000,000 barrels of light oil from the Dakota sand since its discovery in 1920, and it is estimated that it will produce as large an amount of crude from the remaining Dakota supply and from the reserve opened in the Sundance in 1935. Discovery of crude in the Embar and Tensleep will give the field four producing horizons.

In the Quealy Dome field, Carbon County, southern Wyoming, the California Company's Holst 6, CW NW SE 13-17n-77w, is making rapid progress. Well is below 3375 feet and approaching critical depth. Company's Holst 5, which was completed last week, encountered the Dakota, main producing horizon for the field, at 3212 feet.

What is expected to be the final chapter in the story of the Garland field's wild gas well was being written this week as Perkins Oil Well Cementing Company sent four heavy-duty cement trucks to the field to pump in mud into Stock Oil Company's Allen 1, SE NW 35-55n-97w, Garland field, Big Horn County, to complete the job of killing the 60,000,000 cubic feet daily which well has been putting out daily for nearly a year.

Pumps have been rigged up and operators expect to have the wild gasser completely subdued within a short period. Well has been out of control since January 17, 1936, and until the last few weeks has made the regular 60,000,000 cubic feet of gas daily. By pumping water into the formation through a directional hole gas flow has been cut to 5,000,000 cubic feet.

Ohio Oil Company has a well at critical stage in the Byron field, Big Horn County, northern Wyoming, this week. Company's State 1, NEc 35-55n-97w, is swabbing and testing in the Embar Tensleep zone at 5331-5418 feet. Seven inch oil string has been set at 5331 feet and hole bottoms in formation. Company's Baker-Byron 1, SE NW 23-56n-97w, in the Byron field, is drilling at 1934 feet.

The Cut Bank field in Glacier County, northern Montana, is resuming drilling this week after being shut down completely last week. The field has 3 active wells resuming since the shut down and 4 new wells are going into action. Location for the new wells was staked during the slump and rapid action is expected in the field within the next few weeks as operators make up for lost time. Last week's shut down of the northern Montana fields was the first of its kind in Montana drilling history.

SALT WATER BILL

Austin.—The House committee on oil, gas and mining has reported favorably a bill which provides that the Railroad Commission can issue rules regulating the disposal of salt water and require that it be returned to the sand through old oil wells.

Representative Conde Hoskins said that no oil company had opposed the bill.

Newhall-Pico Wildcat

BEING DEEPENED AFTER SHOW, STILL IS SECRET

Los Angeles.—The most interesting wildcat in California at this time is Barnsdall Oil Company's Rancho San Francisco 1, Section 26-4n-17w, in the Newhall-Pico area of Los Angeles County. This hole stopped drilling at 6276 feet, and conducted a number of production tests. It showed about 100 barrels of 58 gravity distillate and slightly less than 5,000,000 cubic feet of wet gas. Liner is now being pulled and the hole will be deepened.

Leases in this general area are much in demand, but no bonus is being paid, while monthly rentals range from $1 to $2 per acre. It is understood Barnsdall Oil Company has secured additional leases in the past few weeks until this company now has under its control between 7000 and 10,000 acres. No accurate figures are known.

The tract upon which the wildcat is located is in rolling hills, hard to get to. There is no road. Much of the equipment had to be pulled in with tractors. There are three locked gates between the highway and the well. Guards are located at two of the gates. Two high officials of Barnsdall Oil Company have been in Los Angeles during the last 10 days, watching developments.

Deep Test at Santa Fe Springs

At Santa Fe Springs, Union Oil Company's deep test, Bell 100, is drilling below 9470 feet in shale with thin streaks of sand. String of 7427 feet of 8⅝-inch casing has been cemented, and considerable more hole can be made before another string of casing will be needed. It is understood this hole will be carried below 10,000 feet.

Twenty new locations have been staked in the new Wilmington field in Los Angeles County during the past week, making this field the most active in Los Angeles Basin. A. T. Jergins is preparing to start 6 wells, and Royalty Service Company has made locations for 5. Union Pacific Railway Company is to start 3 holes, while Interstate Investment Company and General Petroleum Corporation are starting two each. Ring Oil Company and F. C. Hall are starting 1 new well each.

Fourteen holes are now actively drilling at Wilmington, and at least 3 of these should be completed within 2 weeks. Total of 42 operations ranging from locations to drilling wells are listed in latest drilling report from this new field.

El Segundo Tests Core Sand

At El Segundo, Ohio Oil Company's Gough 2, total depth 7341 feet, with 6⅝-inch cemented at 7270 feet, cored 23 feet of rich oil sand from 7273 to 7296 feet, while cores from 7298 to 7325 feet showed decomposed schist with conglomerate giving fair cuts. The schist was topped at 7225 feet. It is expected this hole will be a good producer.

The Texas Company's Johnston 2-1, El Segundo, total depth 7436 feet, cored oil sand from 7388 to 7889 feet, with shale between 7389 feet and 7400 feet, oil sand from 7406 to 7407 feet; cores from 7420 to 7429 feet were lost. This oil sand is above the Nodular shale. Formation tester will be run to test possible productivity of the previously mentioned zones.

Ten other holes are drilling in the new El Segundo field, 9 of which are drilling below 6000 feet. Richfield Oil Company's first deep zone producer, El Segundo 1, bottomed at 7435 feet, is steadily producing a daily average of 1583 barrels of 27.3 gravity clean oil.

Although no announcement to that effect has been made, it now appears that Union Oil Company's Callender 50 in the Dominguez field is to be a deep test of that pool. At last reports, this hole had a total depth of 9214 feet in shale and sand, cores being taken all of the time. This hole has 6860 feet of 8⅝-inch cemented, and if no mechanical difficulties are encountered, can go to at least 10,000 feet.

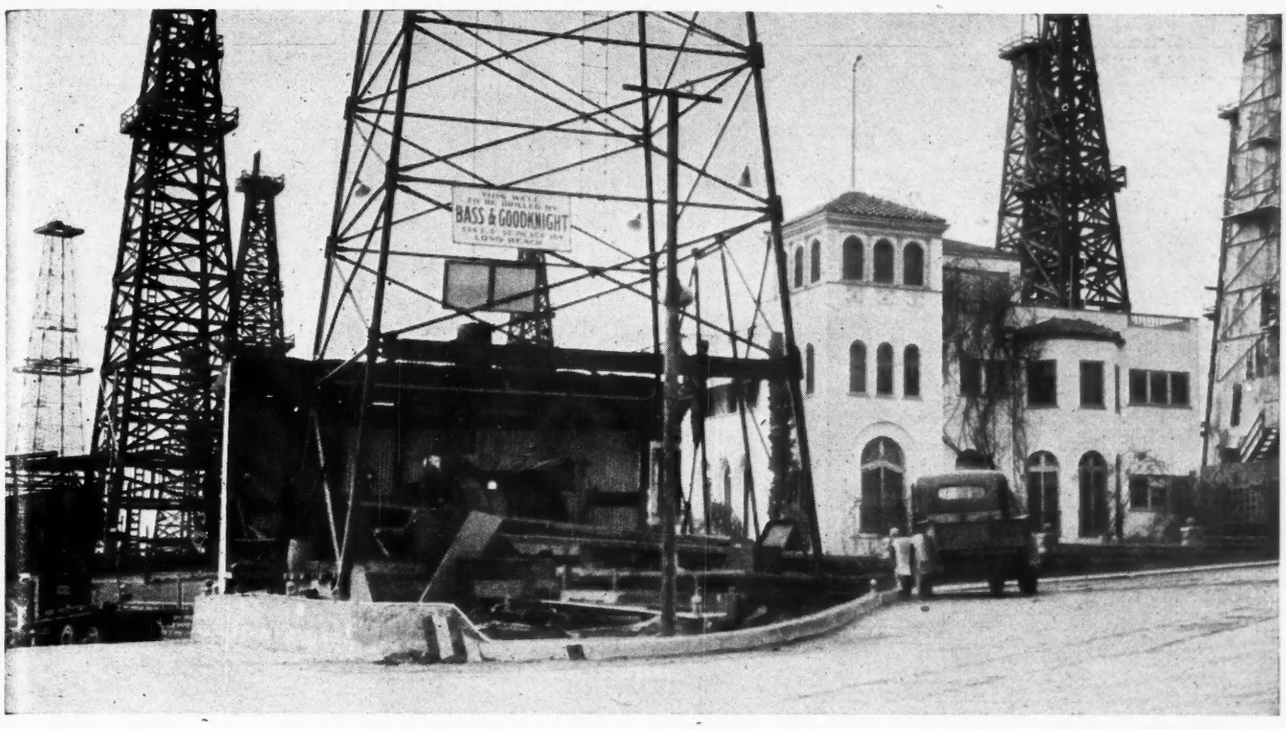
Eight wells are drilling at Dominguez, and plans are being made to start two new holes. Shell Oil Company and Union Oil Company control the proven area of the field, and it will be pos-

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EAST COYOTE—		
Bartholomae Oil Corp., Stern 3	350	5095
LONG BEACH—		
Davis Inv. Co., No. 9	*	5822
EAST RICHFIELD—		
West Coast Ref. Co., Yorba 1	*	3415
EDISON—		
Mansfield Oil Co., Smithwick 1	90	817
Berry Holding Co., Grayson 4	*	1928
FRUITVALE—		
Meridian Oil Co., Turner 2	250	3132
KERN FRONT—		
Standard, No. 3	175	2845
McKITTRICK—		
Welport Oil Co., No. 16	180	1195
MIDWAY SUNSET—		
Merritt Annex Oil Co., Fried 3	325	2893
Shell, McKeon Fee 1	300	2112
Surprise Oil Co., No. 6	65	1287
Union, Keene 6	535	2048
ADAM—		
A. N. Macrate, Fernandez 1	700	3900
RIO VISTA—		
Amerada, Drouin 1	42	4500
VENTURA COUNTY—		
Tide Water, Wiley Canyon 1	*	5287

*Failures; †Junked; ¶Million cu. ft. gas.



The world's smallest lease is being drilled by Bass and Goodnight on top of Signal Hill, the small tract being a triangular esplanade that barely accommodates a derrick. The lease has for years had the appearance of a small park, but it is a privately-owned tract that apparently was too small to drill. The slush pit and other necessary space killers are located under the derrick. The power is derived from a gas engine that is built integral with the drawworks. Servicing the well during drilling operations has become a constant task, since it is impossible to store equipment ordinarily on hand at an average well. Shell Oil Company's guest house on Signal Hill is shown in the background.

sible to drill a number of new wells before the field is completely drilled up.

New Life at Torrance

The old Torrance field in Los Angeles County is taking on new life with 11 strings of tools busy. Chanslor-Canfield-Midway Oil Company, subsidiary of the Santa Fe Railway Company, largest operator of the field, is drilling two holes. New operations in this old field have been held back for years due largely to refusal of land owners to reduce their royalties. During the early life of the field, royalties up to 40 percent were paid. It is now impossible to pay such royalties on small wells and make a profit.

In the Fruitvale field in Kern County, Western Gulf Oil Company's Brockman 1 stopped drilling at 6989 feet, and this deep test may be abandoned, although no official word has come from the company as to its plans. The company discovered this field and had built up a nice production. Bittle 1 is testing at 3980 feet, and rig is building for A. C. West 2. Seven other wells are drilling in the field, and 4 new rigs are up.

In the new Greely field in Kern County, discovered by Standard Oil Company of California, is the scene of 4 drilling wells, all by that company. Three of these are below 6000 feet.

The general Midway-Sunset area, a combination of a number of small fields in Kern County, is the busiest in California, with 31 strings of tools busy and with rigs about ready for 7 new holes. Lake View is a part of this general area, and was the scene of one of the most spectacular gushers California has ever known. Leases in the Lake View field were turned back to owners some years ago, but are much in demand now. New wells in this area are being completed for 300 to 500 barrels each on the pump.

GAS DRAINAGE BILL

Austin.—Senator Clint Small has introduced a bill in the Texas Legislature seeking to empower the Texas Railroad Commission to prevent the drainage of gas from one lease to another in a common reservoir.

The bill was expected to permit the Railroad Commission to prorate gas in the Texas Panhandle and other fields and still comply with the recent decision of the United States Supreme Court.

It provides that the commission may issue orders to prevent gas from moving from one lease to another or from one zone to another in the common reservoir.

This would allow the commission to divide the Panhandle area into zones and prorate each one separately in a manner that would prevent especially the movement of sour gas into the sweet gas areas.

Los Angeles.—Union Oil Company is constructing a pipe line 2 miles in length from the new Adam area near Santa Maria, to connect with the trunk line from Orcutt to Port San Luis. Necessary tankage is to be erected on the Battles farm in the Adam field, and two heating stations are being built, due to low gravity of oil to be moved. This oil will be moved from the deep water harbor in tankers to refineries of the company.

LEASE SALE

Muskogee.—The next oil and gas lease sale of restricted allotted Indian lands of the Five Civilized Tribes will be held here March 4, beginning at 10 a.m., in the office of A. M. Landman, superintendent.

To be conducted under the regulations prescribed by the Secretary of the Interior, the sale will include 9601.99 acres from 19 counties. In addition to the regular order of the sale, there will be offered six tracts in Pontotoc County, of unallotted tribal land of Choctaw and Chickasaw nations. The six tracts will comprise a total of only 13.09 acres, formed from right-of-way from the Oklahoma Central and Canadian Valley and Western railroads.

GAS TO AID BLIND

Austin.—A bill has been reported favorably by the House Committee on State Affairs providing for an appropriation of $125,000 to the blind.

The appropriation would be derived from one-fourth of a 4 percent tax on natural gas. The tax now is 2 percent of the value of natural gas.

Before the bill would become effective, it would be necessary for a constitutional amendment to pass allowing the State to use the money for this purpose.

Three Good Ones

NEW GLADWIN AREA WELLS FLOW 55-100 BARRELS HOUR

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—Three new wells ranging in initial production from 55 to 100 barrels per hour initially in Dundee lime horizon were completed in Buckeye township, Gladwin County, newest field in the state.

The three completions included McClanahan & Smith's Bremmer 1, SE SE SW Section 11-18n-1w, west offset to the discovery well, and Double K Trust Company's State A-1, NW NW NE Section 14 18n-1w, direct south offset to discovery.

First test to complete in area not a direct offset was Mammoth Producing & Refining Company's Ockerman 1, SE NE SE Section 11-18n-1w, two locations north and one location west (900 foot locations) of discovery. Ockerman 1 initialled 1400 barrels natural from Dundee at 3620 feet and showed a slight rise on structure.

Besides 24 other active drilling operations in the Buckeye area, at least 10 new locations were staked this week. Operators were keeping a close eye on a half dozen "control tests" which are now nearing first marker formations in upper beds ranging from a quarter to a mile distance from the discovery.

Mammoth Producing & Refining Company topped all other record prices paid in Michigan when on February 23 paid $65,280 to Daily Crude Oil Company for a 40-acre lease on the Jackob tract, NE SE Section 10-18n-1w, the price including completion of one drilling well. Deal also included an overriding royalty agreement with Daily Crude Oil Company.

Possibility of an important northwest extension to Arenac County, Clayton township pool, loomed this week when Rowmor Corporation's Thompson 1, SW SE SE Section 31-21n-4e, Ogemaw County, started to fill casing with oil from 196 feet in Dundee lime.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
Devonian Oil Co.'s Crandall 1, nw se se 10-20n-4e	70	2595
Gulf Ref. Co.'s Kainder 1, ne se nw 10-20n-4e	35	2578
GLADWIN COUNTY—		
A. M. Henry's Little 1, ne ne se 36-17n-2w	*	3890
Smith & McClanahan's Brenner 1, se se sw 11-18n-1w	2010	3625
Mammoth Pro. & Ref., Ockerman 1, se ne se 11-18n-1w	1389	3620
Double K Trust, State A-1, nw nw ne 14-18n-1w	1255	3619
GRATIOT COUNTY—		
C. E. Weller's Bolyard 1, nw nw se 27-9n-3w	*	3400
American Prod., Browne 1 sw sw 2-10n-4w	*	1001
Akin 1, c ne se 3-10n-4w	*	999
Barnes 1, c se ne 8-10n-4w	¶2½	992
Herb Snell's Smead 1, sw sw se 20-11n-4w	*	3555
HURON COUNTY—		
C. W. Teater's Keller 1, ne sw nw 27-16n-11e	*	2790
ISABELLA COUNTY—		
Chartiers Oil Co., Mummy 2, nw ne nw 23-14n-3w	95	2990
Smith & McClanahan's Simon 1, ne ne se 3-13n-5w	*	3540
MIDLAND COUNTY—		
Pure Oil Co.'s Bond Root 17, se se 3-13n-2w	110	3449
OGEMAW COUNTY—		
Morris & Barne's Golf 7, nw ne sw 20-22n-2e	135	2747
Richland Oil Co., Hustead 3, se nw se 36-22n-2e	45	2720

*Failures; †Junked; ¶Million cu. ft. gas.

BUYS LEASE

Sylvania also to build short Allegany line

Wellsville, N. Y.—In what was described as a $500,000 transaction, Sylvania Corporation, Oil City, Pennsylvania, on February 19 acquired 5 leases with as many gas wells developed by the interests of G. H. Schrack, Mansfield, Ohio, in the town of Alma, Allegany County, New York, and announced construction of an 11-mile pipe line to market the gas. The transaction is believed to be the largest in the New York-Pennsylvania deep gas field in recent years.

All the leases are in proven territory, with one well with an initial open flow of 25,000,000 feet a day and upwards already developed on each property. Sylvania is to enter the field as soon as possible and rush completion of the line which will connect the wells with its present lines at Ellisburg, Pennsylvania. Gas from the wells, which are not now being tapped, will go to Buffalo and the Iroquois Gas Company.

Former owners are to get an agreed price for the gas sale over and above the royalty to land owners. The wells were originally syndicated at about $50,000 per well, or $1000 for each 1/50 interest. The deal, it is said, will involve a half million dollars when gas is sold out of the leases.

Wichita.—Announcement has been made of the opening of the new natural gasoline plant of Empire Oil & Refining Company, located north of Haven in Reno County, Kansas. The plant is reported capable of manufacturing 18,000 gallons of fluid from gas taken from the nearby Stone sector of the Burrton pool.

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Back to Normal

OHIO-INDIANA WORK ON INCREASE AFTER FLOODS

WEEKLY STAFF REPORT

Pittsburgh.—Activity in the Central Ohio and Indiana fields increased markedly and had all but returned to normal last week following shut-downs in many sections since late January because of flood waters. Another week will be needed for clean-up work in the Kentucky field, however. Fields farther east suffering from high water returned to normal in mid-February, after about two weeks of curtailed operations.

Largest eastern oil producer of the week was that of of Hulse-Kuntz, Inc., on the Lovey Stone tract, Jackson township, Knox County, Ohio. Drilled through the Clinton sand at 3141-93 feet, it made 90 barrels the first 24 hours after a shot. Runner-up was the Coshocton County, Ohio, well of Preston Oil Company, W. A. Little 3, which made 74 barrels after a shot. Pay is in the Clinton sand at 3137-64 feet. Other successful Central Ohio field completions were small.

The first Indiana producer of several weeks was recorded by K. R. Bixby trustee with the Christ Ziss 5 in German township, Vanderburg County. It was drilled to 1251 feet and had a production of 25 barrels the first 24 hours after a shot.

West Virginia Deep Test Fails

An important West Virginia deep test proved a failure when Godfrey L. Cabot, Inc., drilled 20 feet in the Oriskany sand on the T. F. Smith farm, Geary district, Roane County, to find it without gas or oil, but making about one bailer of water an hour. The top of the Corniferous lime was at 5794 feet and the Oriskany sand at 5975 feet. The test is north of the present Oriskany gas field of Kanawha County.

Three other West Virgina tests are being drilled outside proven areas. Godfrey L. Cabot, Inc., is deepest on the Allen Hardman farm, Center district, Calhoun County, at 5268 feet. The same operator is down 4165 feet on the Walter Hoffman farm, Burning Springs district, Wirt County, while John T. Galey is drilling a deep test on the Rachel Talbot farm, Grant district, Hancock County, that has not as yet reached the Berea.

West Virginia oil producers last week were headed by Virginia Gasoline & Oil Company's well No. 38 on the Brown, Swan, Goshorn and Geary tract, Henry district, Clay County, which started at 30 barrels a day. It was completed in the Injun sand at 1920 feet.

United Fuel Gas Company completed No. 4656 on the A. J. Bruen tract in Elk district, Kanawha County, at 5126 feet in the Oriskany sand. It gauged 5,000,000 feet a day. Rock pressure was 1290 pounds. In Malden district of the same county, the Columbian Carbon Company completed No. 15 on the W. D. Lewis tract, gauging 3,400,000 feet a day with the tools still in the hole. Corniferous lime was topped at 4740 feet, with the top of the Oriskany sand at 4847 feet.

Three new locations were staked in the Oriskany field during the week.

An Ohio deep test commanding attention is that of Harold C. Phillips and others on the Richard and Bell Fenton farm, Poland township, Mahoning County, which is drilling at 3930 feet, or 145 feet in the Corniferous lime.

BUY PLANT SITE

Toledo, Ohio.—The purchase by Gulf Refining Company of 30 acres, presumably for expansion of its plant here, was announced last week by a local real estate firm. The acquired property adjoins Gulf's Toledo refinery.

The purchase was confirmed by Charles B. Buerger, vice president of Gulf Refining Company, who said the engineering department had the development under consideration. "But it is too early to disclose details of any proposed development," he said. "We have just acquired the land."

FIGHT OIL TAX

Albany, N. Y.—Oil men associated with New York State's only oil field are leading the fight against increasing the state gasoline tax from 3 to 4 cents a gallon. Governor Lehman proposed the increase.

Harvey L. Chambers, general manager of Allegany Refiners, Inc., and a member of the Allegany-Cattaraugus Petroleum Industries Committee, is heading the educational campaign directed against the proposal, which would increase the tax burden upon the motorist by $16,000,000 a year. The tax was reduced from 4 to 3 cents last year by a Republican legislature.

"Governor Lehman is trying to shift the heavy end of the state's growing tax burden to the shoulders of motorist taxpayers by putting the gasoline tax rate back to 4 cents a gallon and by using the revenue for general purposes," Chambers said. "These recommendations are both unfair and inimical to public welfare. They are unfair because they propose an unnecessary high gasoline tax and misuse of revenues therefrom. The state does not need the money for roads, and road financing is the only possible excuse for any gasoline tax. This increase unnecessarily and unjustly would take an additional $7 out of the pocket of every motorist."

EASTERN FIELDS
Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
GUERNSEY COUNTY—		
Hayes Ferguson, M. Spaid 3.....	*	1132
KNOX COUNTY—		
Upham Gas Co., Walter Busenburg 3	2	695
LORAIN COUNTY—		
Snyder & Wiles, Mary Walker 1..	¶	2677
MUSKINGUM COUNTY—		
Ohio Fuel Gas, J. Detenbeck 1....	¶	3969
PERRY COUNTY—		
Hopewell Gas & Fuel Co., L. A. From 1	¶	2901
Foracker & Co., Herbert Wise 1...	*	....
STARK COUNTY—		
East Ohio Gas Co., J. A. Rohr 1..	¶	4182
P. Tippel 1	¶	4152
Ohio Fuel Gas, N. Butler 1.....	¶	4193
SUMMIT COUNTY—		
East Ohio Gas Co., Camp Y'Noaha 1	¶	4143
E. L. Razor 1	*	3996
WAYNE COUNTY—		
Ohio Fuel Gas, Grace Johnson 2..	*	3095

ILLINOIS

CLINTON COUNTY—		
J. E. Newton et al, M. J. Langhauser 1, se sw se sec 32-2n-3w..	*	1051
Carl Willi et al, Nolting 1, se se ne sec 11-1n-2w	*	1365
CHRISTIAN COUNTY—		
Nokomis Oil Co., N. Glass 2, ne sw sec 29-12n-2w	*	1122
MARION COUNTY—		
Adams Louisiana Oil Co., Glenn Merriam 1, c se sw sec 21-4n-1e oil, no gage	...	1418
WABASH COUNTY—		
Mahutska Oil Co., Mark Madden 9, nw nw ne sec 7-1n-11w.....	*	1452

WEST VIRGINIA

BOONE COUNTY—		
Owens Illinois Glass Co., C. L. Vickers 2	¶	2253
United Fuel Gas Co., Mohler Lumber Co. 4618	¶	4560
Owens-Illinois Glass Co., Cassingham Coal Co. 24	¶	2399
I. Sayres, R. Pickens 6.....	¶	3505
CABELL COUNTY—		
W. Kingrey & Co., C. Ritter 1....	¶	2850
CALHOUN COUNTY—		
Robinson & Wright, M. Brand 1..	¶	2153
Adams & Connelly, T. McDonald 1	*	2268
Hope Natural Gas Co., R. White 7767	¶	2119
Ferrel & Co., L. Carrol 1.....	¶	2153
GILMER COUNTY—		
E. L. Bush, T. Bush 1.....	¶	1529
KANAWHA COUNTY—		
Owens-Illinois Glass Co., Silver Coal Land Co. 1	¶	3963
MASON COUNTY—		
J. C. Blair, V. Hiner 1.....	¶	3861
MINGO COUNTY—		
Huntington, Oklahoma Gas Co., F. Brewer 5	¶	3030
F. Yates, Own property 2	*	1540
PLEASANTS COUNTY—		
T. Johnson, Ruckman Estate 1....	*	610
RITCHIE COUNTY—		
Moats & Richards, Jackson 4.....	¶	1790
W. Mosser, W. Prunty 2.....	¶	2026
Mellon Brothers, A. J. Null 1.....	*	2335
Tri-County Producing Co., E. W. Bell 3	25	1924
WIRT COUNTY—		
Oil City Trust Co., P. Marks 8....	1	962
WOOD COUNTY—		
A. Congdon, C. Grant 6.....	8	2162

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

CHOCTAW COUNTY—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, mim (8000 ft test).

GREENE COUNTY—Willis & Payne's R. C. Lett 2, se nw 6-21n-2e, dk.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, dr 4975 ft, shale and gumbo (Tuscaloosa).

MOBILE COUNTY — Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

WASHINGTON COUNTY—Ark. Fuel Oil Co.'s McClure Pine Co. 1, se ne 4-5n-2w, dry abnd, td 6112 ft.

ARKANSAS

CLARK COUNTY — McLarry & Carlin's Bierne Lbr. Co. 1, ne se ne 22-10s-21w, rur. J. G. Wooten's Sparkman 1, sw nw 1-11-20, sd 545 ft.

CLEVELAND COUNTY—J. R. Lockhart's Robertson 1, sw se 36-10-11, arr core 3362 ft.

CLAY COUNTY—Nelson et al's Underwood 1, se sw ne 4-20-8, lcn.

DALLAS COUNTY—Walter Lown's Atkinson 1, nw se 7-10-13, sd 2763 ft.

GRANT COUNTY—Wallace & Staples' W. F. Davis 2, se se nw 23-6-15, rur.

HEMPSTEAD COUNTY—Root Pet. Co.'s Drake 1, se nw 23-14-24, coring 2350 ft. Jones 1, sw ne 16-13-23, junked and abnd 4515 ft. J. R. Birdwell's Duckett 1, 24-13-24, 10-in csg 100 ft. Sheppard & Todd's Smith 1, ne sw se 1-11-25, rur.

LA FAYETTE COUNTY—A. M. Neely's Meek 1, ne nw 35-19-25, dr 3020 ft. King Drlg. Co.'s Walcott 1, c ne sw 36-19-26, rur.

LITTLE RIVER COUNTY—J. G. Strahan's Dierks Lbr. Co. 1, 21-12-28, dr 1985 ft.

MILLER COUNTY — Erwin & Leach's Merchants & Planters Bank 1, se se 18-15-26, spd. Thad Bryant's Commercial Bank 1, 20-18-28, lcn. Joiner et al's Montana Realty Co. 1, 3-17-28, sd 5325 ft.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Block 1, ne se 9-14-20, coring 4230 ft sandy shale; Jackson 1, nw ne 9-14-20, so 1200-17 ft, tested 900 ft oil in drill stem test 2122-32 ft, cemtd csg 2131 ft, woc, td 2134 ft. W. S. King's Wren 1, sw ne 6-13-22, spd dr 1600 ft. Walter Lown's P. C. Grayson 1, sw se 12-14-20, dk. C. B. & F. Pet. Co.'s Haynie 1, sw ne 5-14-20, sd 1170 ft. A. M. Lacey's Bennett 1, sw ne 28-14-22, mim. Axel Larson's J. T. Wortham 1, sw nw 29-13-21, sd 2340 ft. W. E. Stewart's Mendenhall 1, nw ne 1-14-20, 10-in csg 105 ft.

OUACHITA COUNTY—Lion O. R. Co.'s Levy 1, 21-15-15, top Nacatosh 2138 ft, tested 400 ft sw in drill stem test 4935-60 ft, dr 5146 ft. Phillips Pet. Co.'s Rose 1, ne se 28-15-15, sd 4894 ft.

POPE COUNTY—Ark. La. Gas Co.'s Smith 1, se se 10-8n-21w, dry abnd 4790 ft.

SEVIER COUNTY—J. C. Brinkley's Dierks Lbr. Co. 1 (was Taber 1) ne ne 14-10-29, rur.

UNION COUNTY—Lion O. R. Co.'s Morgan 1, 18-18-17, dr 4440 ft.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK — Western Gulf's S. P. Land Co. 3, 3-17-15, td 8531 ft, plug, bailing and swabbing fresh water and light gravity oil.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s No. 1, 23-28-26, dr shale streaks sand 8495 ft.

ARVIN—Bear Mountain Oil Co.'s Tejon 1, 21-31-30, rur. General Pet. Corp.'s Arvin 1, 26-31-29, td 7462 ft, tubing at 7195 ft, swabbing water and oil. Superior Oil Co.'s No. 1, 26-31-29, foundation, to drop from report.

MARICOPA—E. A. Bender's No. 1, 14-10-23, td 1235 ft, plug 550 ft, sd. Trans-Line Pet. Corp.'s No. 1, 3-10-23, sd 662 ft.

PREMIER—Bojaki Oil Co.'s Bowen 1, 28-27-27, rur.

GREENFIELD—British American's No. 1-A, 21-31-27, sd 1128 ft.

GRAPEVINE—Buffalo Oil Co.'s Tejon 1, 5-10-19, dr shale 2240 ft. Ohio Oil Co.'s Title Ins. D-1, 21-11-19, td 6662 ft, washed with mud solvent, swabbing some 25 gravity oil, to deepen. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, sd 6030 ft; Tejon 33-2, td 4505 ft, redr to 4310 ft in shale; No. 33-3, td 4431 ft, flowed 8,000,000 cu ft of gas, now shut in with tubing pressure of 1700 pounds and 1800 pounds on the casing.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, sd 2590 ft. Union's No. C-1, 34-11-22, td 3945 ft, dr pipe froze, circulating oil.

MOUNT POSO—Calcoast Oil Co.'s No. 1, 36-26-27, sd 2655 ft.

WASCO—Continental Oil Co.'s K.C.L. A-1, 8-27-24, td 9545 ft, bridge 9355 ft, stuck dr pipe at 9303 ft, cement dr pipe at 9303 ft, and will test through dr pipe. Seaboard Oil Co.'s K.C.L. C-1, 26-27-24, rur.

ROSEDALE—Continental Oil Co.'s K.C.L. B-1, 12-29-26, dr sandy shale 2940 ft.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr shale 3214 ft. Lube Oil Co.'s No. 1, 2-25-18, dr brown shale 3675 ft.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, plug 2882 ft, pumping water and oil; No. 2, rig.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 3, 4-31-29, dr shale 4820 ft.

RIO BRAVO—Mohawk Pet. Co.'s K.C.L. 1, 23-29-25, rur. Petroleum Securities Co.'s Wright 1, 23-29-25, spud Feb. 13 and sd. Tide Water Associated's K.C.L. 1, 30-29-25, td 8303 ft, set 8⅝ in at 7358 ft.

KERN FRONT—Seskayden Oil Co.'s No. 3-A, 17-28-27, sd 2890 ft, plug 2870 ft, testing; Sesnon 4, rig.

GOSFORD—Signal Oil & Gas Co.'s K.C.L. 1-A, 21-30-27, td 5647 ft, r.

TEN SECTION—Superior Oil Co.'s K.C.L. 8, 11-30-26, td 10,409 ft, cemented 7 in at 10,380 ft, rigging heavy equip.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, td 7418 ft, r.

KINGS COUNTY—Central Calif. Utilities Corp.'s Kettleman-Lakeview 3, 11-23-19, td 1170 ft, wocs 6⅝ at 1140 ft. A. S. Clare's Laymance 1, 20-20-22, rig. Dudley Ridge Dev. Co.'s No. 2, 24-23-20, foundation. Pyramid Prod. Co.'s Spreckles 2, 16-24-18, lcn. Tide Water Associated's Avenal 2, 35-23-17, td 1953 ft, plug 900 ft, redr to 1401 ft in os.

SAN BENITO COUNTY—Tide Water Associated's Murphy Ranch 1, 5-12-4, dr shale 6261 ft.

SAN JOAQUIN COUNTY—Standard's Tilden Com. 1, 31-2-5, td 5312 ft, wocs 7 in at 5179 ft.

SOLANO COUNTY—Amerada Pet. Corp.'s Maywood 1, 35-4-2, sd.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, sd 1023 ft. R. R. Ellis' Ellis 1, 20-24-23, rig. E. P. Jennings' No. 1, 4-24-23, td 2709 ft, wocs 6⅝ in at 2665 ft. Trico Oil & Gas Co.'s Callison 1, 27-2-25, td 4620 ft, formation tester at 3750 ft, recovered water, trace of oil.

MONTEREY COUNTY — Amil A. Anderson's No. 1, 15-24-14, sd 680 ft. Shell's Branch 2, 34-24-10, dr shale 6580 ft. Texas Co.'s Dunphy 1, 30-19-7, dr shale 1860 ft.

SAN LUIS OBISPO COUNTY—Aviation Oil Co.'s Brintnall 1, 10-11-35, sd 1639 ft. Barnsdall's K.C.L. A-1, 1-32-20, rur. R. A. Foster's McKee 1, 2-32-23, dr shale 5060 ft. A. T. Jergins Trust's Indian Knob 1, 26-31-12, td 1438 ft, wocs 8⅝ in at 1436 ft. Temblor Oil Co.'s No. 1, 22-32-21, rig. Union's Porter 1, 22-32-15, dr hard shale 4814 ft. United Foreign Oil Co.'s Panorama 2, 2-32-21, sd 2435 ft.

SANTA BARBARA COUNTY—O. C. Fields Gaso. Corp.'s Continental 1, 4-8-32, td 2812 ft, bailed oil and gas, lost bailer; Santa Rita 1, 11-7-33, sd 2064 ft. E. H. Moore's Union Sugar A-1, 25-10-35, td 8057 ft, co. Ben Moyle's Arrata 1, 9-8-3, rur. Union's O'Donnell 1, 21-10-34, grading.

VENTURA COUNTY—Tide Water Associated's Wiley Canyon 1 (Piru) td 5287 ft, abn. Vaca Oil Explor. Co.'s Calif. Lands 1, 6-1-21, sd 2830 ft. Ventura Explor. Co.'s Sexton 1, 30-3-22, sd 9525 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S. F. 26-4n-17w, td 6276 ft, on production test made 125 bbls 58 gravity oil and 6,500,000 ft gas, to deepen. Holbrook Pet. Co.'s No. 1, 28-4-16, td 4025 ft, sd to resume dr.

PICO CANYON—A. G. Burt's No. 1, 36-4-17, dr shale 270 ft.

LYNWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, sd 3995 ft.

NO. LONG BEACH — Geo. L. Clayton's Clayton 1, 32-3-12, sd 2130 ft.

FOX HILLS—Country Club Oil Co.'s No. 1, dr sandy shale 720 ft.

EAST WHITTIER—Drillers Inc., No. 1, 22-2-11, dr shale streaks sand 910 ft.

MONTEBELLO—Danciger Oil & Ref. Co.'s Baldwin 1, 11-2-11, lcn.

CLEARWATER—H. Heide's Rogers 1, 20-3-12, rig.

PUENTE—Honolulu Oil Corp.'s Butler 1, 15-2-10, dr shale 3110 ft.

TORRANCE — Imperial Gypsum & Oil Corp.'s McDowell 1, 35-3-14, td 7210 ft, co.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr shale streaks hard sand 1214 ft.

HERMOSA BEACH—Leora Oil Co.'s No. 1, 31-3-14, dr shale streaks sand 3924 ft.

PALOS VERDES HILLS—McClaren Bros. No. 1, 27-4-14, td 3990 ft, redr at 1420 ft.

ANAHEIM—Shell's Mathis 1, 23-4-10, dr shale 2735 ft.

ROSECRANS—Shell's McKinley 4-1, 20-3-13, td 7618 ft, dr shale streaks os.

HAWTHORNE — Signal Finance Corp.'s Woods 1, 10-3-14, td 9395 ft, trying to locate water.

CULVER CITY—Vincent Pet. Co.'s Harriett 1, 12-2-15, rigged and sd.

DAVIDSON CITY — C. G. Willis' Flood Control 1, 11-4-13, td 5890 ft, redr directional hole 5360 ft.

ORANGE COUNTY—Mesa Oil Co.'s No. 1, 29-6-10, dr hard brown shale 5834 ft. West Coast Ref. Co.'s No. 1, 25-3-9, td 3415 ft, abn.

KANSAS

BARTON COUNTY—Duee & Brouk's Baker 1, ne se sw 16-17s-13w, dr 3055 ft. I.T.I.O. Co.'s Schrepel 1, se se ne 26-20s-11w, dr 2625 ft. Herndon Drlg. Co. & Morgan & Flynn's Robenseifer 1, cnw 7-18s-15w, run 15 in csg 430 ft. Stanolind's Burmeister 1, ne ne sw 33-19s-

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

11w, td 3342 ft; ½ bbl oil per hr; will twa. C. L. Price et al's Kraft 1, sw nw ne 10-17s-11w, dr 405 ft. C. L. Carlock's Leibel 1, se ne se 18-18s-11w, spd. Missouri Valley O & G Co.'s Peach 1, se se se 24-16s-14w, sd 395 ft. Pierson et al's Hart 1, sw sw ne 9-20s-13w, lcn. Ralph Wixon & Union O & Ref Co.'s Frederick 1, nw nw nw 12-16s-13w, cel.

BUTLER COUNTY—Cox & McGinnis' Faulders 1, sw sw ne 27-25s-3e, dr 2990 ft.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, dr 1945 ft.

CHAUTAUQUA COUNTY—Brosius et al's Morris 1, sw nw sw 6-32s-12e, sd 2049 ft.

COWLEY COUNTY—W. M. McKnab's Weldschmidt 1, sw sw nw 18-34s-6e, dr 1900 ft. McKnab's Community 1, cne nw 14-34s-3e, dr 2950 ft. Wentz & Amerada's Rush 1, nw sw sw 36-34s-6e, spd.

DECATUR COUNTY—Winkler & Koch's Vessey 1, cnw se 26-3s-26w, sd 4007 ft.

EDWARDS COUNTY—Stanolind & Elwell's Donovan 1, cse se 14-26s-18w, td 4984 ft, D&A.

ELLIS COUNTY—Empire's Samuelson 1, ne ne ne 31-11s-16w, woc. Murphy Oil Co.'s Weisner 1, se se sw 12-14s-19w, dr 2845 ft. Lario O & G Co.'s Cress 1, ne ne ne 13-11s-17w, dr by 2775 ft. Empire's Hall 1, se se se 2-12s-17w, dr 2565 ft. Sunray Oil Co.'s Befort 1, ne ne ne 11-14s-20w, dr 2900 ft. Winkler & Koch's Jensen 1, sw sw ne 3-13s-18w, sd 80 ft. Mazda Oil Co.'s Henderson 1, sw sw ne 27-11s-18w, lcn. Noble Pet. Corp.'s O'Laughlin 1, nw nw se 13-12s-19w, ru. Earl Wakefield's Putnam Mort Co. 1, se se nw 32-15s-17w, lon.

ELLSWORTH COUNTY—Frost et al's Dolechek 1, ne ne sw 36-14s-8w, sd 300 ft.

FINNEY COUNTY—Keith & Olson Drlg. Co.'s Ely 1, nw nw sw 34-22s-29w, rur.

GRANT COUNTY—Columbian Fuel Co.'s Gray 1, cse 3-29s-35w, dr 1520 ft.

GREENWOOD COUNTY—Ohio Oil Co.'s Schwab 1, se sw se 9-24s-10e, set 6 in 2452 ft.

HARPER COUNTY—Carter Oil Co. et al's Seihart Estate 1, csw nw 4-34s-8w, mim.

HARVEY COUNTY—Harburney Oil Co.'s Schragg 1, nw nw se 24-22s-3w, fsg 3711 ft.

KINGMAN COUNTY—Shell Pet. Corp.'s McMichael 1, cw½ w½ sw 12-27s-10w, dr 3593 feet.

LANE COUNTY—K. C. Bates' Bates-Nimocks 1, cnw ne 16-16s-28w, dr 4685 ft.

LOGAN COUNTY—Rosespring Drlg. Co. et al's Wright 1, cse se 12-15s-35w, fsg 3909 ft.

LYON COUNTY—Clyde Fred et al's Bruce 1, nw nw nw 13-18s-10e, woc.

McPHERSON COUNTY—Hutchinson O & G Co. et al's Berg 1, sw sw se 15-20s-3w, dr 1330 ft. Wamhoff et al's Nuse 1, se se sw 18-18s-4w, mim. Smith et al's Larson 1, nw nw sw 35-18s-5w, mim.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, sd 3587 ft.

RENO COUNTY—Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, dr 3100 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 3848 ft. Helmerich & Payne et al's Evans 1, ne ne se 29-24s-6w, rot rig. Helmerich & Payne's Benson 1, ne ne ne 5-25s-6w, dr 3708 ft. Carlock et al's Brown Royalty Co. 1, nw nw ne 32-22s-10w, td 3705 ft, D. & A. Atlantic's Page 1, se nw nw 19-23s-7w, rur.

RICE COUNTY—Sage et al's Patton 1, sw sw sw 5-21s-7w, testing. Buckley's Bailey 1, sw sw nw 19-20s-6w, sd 1000 ft. Empire's Banterton 1, se sw se 11-18s-8w, dr 3270 ft. Continental et al's Michells 1, ne ne sw 12-18s-8w, rur. T. C. Johnson's Schubert 1, sw sw sw 9-20s-10w, ru. L. E. Douglas' Coyne 1, ne se se 24-21s-8w, ru. John Hanna et al's Fulton 1, nw nw ne 24-19s-6w, ru. Dickey Oil Co.'s Brothers 1, se se se 1-21s-7w, td 3567 ft D & A. Manning & Martin et al's Mathes 1, se sw ne 27-21s-8w, rot rig.

ROOKS COUNTY—Snowden & McSweeney's Hindman 1, ce¼ nw 35-7s-17w, Est 40 bbls oil per day; 200 ft oih; td 3109 ft. Fraham et al's Fike 1, sw sw sw 9-9s-17w, 5000 A; P. 187 bbls oil & 100 bbls wtr, 18 hrs. Basin Oil Co.'s Baxa 1, ne ne ne 23-9s-17w, sd 2000 ft. Lester & Dean's Burtt 1, se se ne 29-10s-20w, fsg 3422 ft.

RUSH COUNTY — S. A. Murphy et al's Roth 1, nw nw sw 21-16s-18w, ru.

RUSSELL COUNTY—El Dorado Ref. Co.'s Scott 1, nw nw ne 17-13s-13w, td 3554 ft, D & A. Empire's Vaughn 1, sw sw sw 17-14s-14w, dr 2135 ft. Getty, Inc.'s Baxter 1, se se ne 8-15s-15w, dr 3140 ft.

SALINE COUNTY — Ryan Consolidated's Weurth 1, sw sw nw 28-14s-2w, fsg 1870 ft.

SEDGWICK COUNTY — Cameron et al's Smith 1, sw se se 13-27s-2e, dr 1650 ft. Swearer et al's Thome 1, sw sw nw 19-28s-1w, brr.

STAFFORD COUNTY—Empire's Jordan 1, sw sw nw 15-25s-14w, 3200 ft oih, 3 hrs. Empire's O'Conner 1, ne ne ne 17-24s-15w, cor 4073 ft. Young et al's Murphy 1-A, se nw ne 32-21s-11w, fsg 1380 ft. Trigg & Vernon O & G Co.'s Andrea 1, se se se 4-23s-12w, brr.

SUMNER COUNTY—Empire's Hoffman 1, nw nw sw 27-34s-1e, td 4086 ft, D. & A. Lloyd, Frost, Study et al's Fee 1, se se se 31-34s-1e, td 3973 ft, D & A. Wakefield & Mead Oil Co.'s Napp 1, sw sw nw 2-34s-5e, dr 3113 ft. Westfall et al's Rogers 1, sw ne sw 35-31s-1w, sd 700 ft.

TREGO COUNTY—Central Commercial Burkett 1, csw 15-11s-22w, fgs 4100 ft. Black Gold Oil Co.'s Allman 1, csw sw 34-14s-21w, dr 870 ft.

WOODSON COUNTY—Reamer's Corn 1, ne ne ne 31-26s-15e, dr 1820 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Lide, Greer et al's J. D. Smelley 1, sw ne 13-16n-5w, elev 239 ft, base massive anhydrite 5640 ft, tested est 50 mil ft gas spray distillate 7163-93 ft through ¾ in open ten minutes, tested est 30 mil ft gas 7205-40 ft, coring 7250 ft, red shale. Texas-Seaboard Oil Co.'s McGee 1, 3-16n-6w, 7-in csg 7537 ft, perf csg 7323-33 ft and 7345-55 ft and 7448-62 ft, tested est 75 mil ft gas, arr pb to 7260 ft and perf csg 6682-6700 ft, td 8017 ft. McDowell et al's Locke 1, 9-15n-10w, dr 2305 ft.

BOSSIER PARISH—Ark. La. Gas Co.'s Wilson 1, sw se sw 8-17n-11w, mim; Hardeman 1, 6-17n-11w, dr 2550 ft. Haynes Drlg. Co.'s A. J. Murff 1, 35-17n-12w, dr 1750 ft. La. Pet. Corp.'s Edwards 1, 5-17n-11w, coring 5012 ft. Triangle Drlg. Co.'s Skannal I-1, 22-17n-12w, showed for gasser at 5170 ft, si for gauge, td 5170 ft; H. L. Skannal H-1, sw sw 23-17n-12w, dr 3610 ft. United's Skannal H-1, 26-17n-12w, top Petitt sand 5120 ft, flowed 5 bbls oil per hour through ½ in choke, tub pres 200 lbs, casing pres 900 lbs si for tanks td 5144 ft; Freedman 1, 15-17n-12w, testing 5130 ft; Henderson 1, 36-17-12, woc 2710 ft.

CADDO PARISH—Ferguson et al's Huckabay 1, 22-22n-16w, 8-in csg 1130 ft. dry at 1137 ft, arr deepen. Gulf's E. P. Hatcher 1, 11-17n-15w, elev 269 ft, 7-in csg 8307 ft, dr 8830 ft, hd sand. R. W. Norton's Payne 1, se se 27-23n-16w, dr 8325 ft. Fallon Oil Co.'s Cupples 1, 24-16n-13w, rur to deepen, td 4001 ft.

CLAIBORNE PARISH—Max Hirsch et al's C. O. Ferguson 1, nw sw 29-22n-6w, dr 5913 ft. Oden & Evans' Patton 1, se se 36-21n-5w, dr 2405 ft. Lisbon Oil Co.'s J. W. Burgess 1, se ne 3-20n-5w, spd, dr 1765 ft. Lyons & Neely's Patton 1, nw sw 36-21n-5w, spd dr 1205 ft. Red Iron Drlg Co's H F Patton 1 sw ne 36-21n-5w, spd 10-in csg 850 ft; H. E. Patton 2, 36-21n-5w, lcn; McDonald 1, 36-21n-5w, lcn; T. E. Patton 1, 36-21n-5w, lcn. Standard of La.'s R. D. Baker 1, nw nw 27-19n-7w, spd 13-in csg 285 ft. United's Warren Brown 1, se ne 1-19n-6w, dr 5062 ft. Rufus Simms 1, sw nw 32-20n-5w, completed est 15 mil ft gasser at 5690 ft, si for gauge, td 5714 ft.

CATAHOULA PARISH—Balconies Oil Co.'s T. J. Chisum 1, 19-10n-8e, rur. Matheny & Schumacher's W. S. Peck 1, 40-10n-8e, mim.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, dr 3256 ft bro lime and shale. Benedum & Trees Oil Co.'s Clifton 1, ne nw 33-13n-12w, 12¾ in csg 1010 ft, dr 1620 ft. Julian-Igoe Synd.'s Smith 1, se se 31-14n-15w, lcn. Sanders et al's Allison 1, 17-14n-13w, mim. Chamberlin et al's Lanier 1, 29-11n-11w, dk. Grady Vaughan et al's Sample 1, ne se 24-11n-14w, arr deepen 5955 ft. Pearl Oil Corp.'s Joyner 1, 28-11n-12w, cored sand so, 2887-90 ft, 8¼ in csg 2885 ft, td 2899 ft. Lee Oil Corp.'s (formerly Seymour, Kaplan et al's Jacobs 1) Mansfield Pet. Co. 1, se se 13-10n-14w, dk. Grogan Oil Co.'s Ramsey 1, 36-11n-11w, coring 2812 ft.

GRANT PARISH — Tri-State Leasing & Dev. Co.'s Edenborn 1, ne se 13-7n-4w, mim.

LA SALLE PARISH—Placid Oil Co.'s La. Cent. Lbr. Co. 3, sw nw sw 8-10n-4e, rur.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, sd 2510 ft. Lent et al's Locke 1, se sw 26-9n-9w, sd 30 ft. Robt. Keen's Moffitt 1, 19-10n-10w, rur.

RAPIDES PARISH—R. D. Webb's Brasher 1, 22-4n-2w, 16-in csg 553 ft, dr 1500 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, se se 32-17n-6e, dr 9565 ft, hd red shale.

SABINE PARISH—Earl Fox's L. B. Blankenship 1, ne se nw 13-9n-12w, cored sand so& sg 3233-37 ft, tested est 15 mil ft gas, arr deepen, td 3305 ft, hd lime. Kirk-Greenway Co.'s Whitney Corp. 1, nw ne 8-9n-13w, spd, woc surf csg. A. C. Scott's Bowman-Hicks 1, 23-9n-13w, owdd, 2020 ft.

WEBSTER PARISH—Ohio Oil Co.'s S. T. D. Coyle 1, se sw 23-21n-10w, dr 4320 ft; R. M. Coyle 2, se se 22-21n-10w, rur; A. H. Gray 1, Acct 2, nw nw 26-21n-10w, dr 5135 ft; Hodges 2, nw sw 23-21n-10w, dr 4669 ft. United's Mixon 1, 22-21n-10w, sd 8231 ft; C. V. Davis 2, nw nw 23-21n-10w, tested show 54 gravity distillate and 3½ mil ft gas 8262-8300 ft, mo td 8425 ft. Magnolia's Ira Cox 5, 23-21n-10w, top Bodcaw-Lower Marine oil-gas sand 8088 ft, flowed 660 bbls distillate and 6 mil ft gas daily 5/16 in tub choke, tub pres 2500 pounds, cas pres 2550 lbs, old td 8635 ft. Woodley Pet. Co.'s Gray B-4, ne ne 27-21n-10w, dr 5305 ft. Tidewater Associated's L. Pipes 1, 10-18n-10w, dry abn, td 6784 ft. Standard of La.'s Fudicker 1, 2-17n-9w, top Travis Peak 6881 ft, cored sat lime sg & distillate 6966-70 ft and below 6970 ft, coring 7040 ft red and blue shale with streaks of lime. Red Hawk Oil Co.'s Baker 2, 9-22n-9w, ds stuck 2822 ft.

WINN PARISH—C. W. Cline's Collingsworth Hrs. 1, se se 14-10n-4w, dk and mir.

SOUTH LOUISIANA

ACADIA PARISH—H. E. Dalton's Setting 1, Trilby prospect, 17-9s-1w, washing to bottom 4047 ft. Humble's Nordyke 1, Ebenezer prospect, 23-10s-1e, fsh 8492 ft.

CALCASIEU PARISH—D. & D. Oil Co.'s Lutcher Moore 1, nw of Starks, 1-8s-13w, dr shale 7013 ft.

CAMERON PARISH—Magnolia's Grey 1, Johnson Bayou prospect, 8-15s-14w, dr shale 6692 ft. Pure's State Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, fsh 10,146 ft. Union Sulphur's Hebert 1, Big Lake area, 18-12s-8w, dr shale and lime 5789 ft.

EAST FELICIANA PARISH—Cavalier Oil Co.'s T. E. Mills 1, near Port Hudson, 58-4s-2w, dr shale 5298 ft. Barnett Pet. Corp.'s Tullos 1, near Jackson, 34-2s-1w, waiting on drill stem at 3943 ft.

EVANGELINE PARISH — Bel Cheney Springs Oil Co.'s Fee 1, 10-2s-1w, dr shale 1209 ft. Continental and Humble's Pardee Lbr. Co. 1, Reddell area, 18-4s-1w, woc 273 ft. Louisiana Crusaders Oil Co.'s Hattie Hass 1, ne of Pine Prairie, 2-3s-1e, dr shale 6119 ft.

IBERIA PARISH — Texas Co.'s State 2, Fausse Point area, 35-11s-8e, testing 6553 ft. Jefferson Lake Oil Co.'s Lake Peigneur 414, Lake Peigneur prospect, 12s-5e, probably set cas at 6585 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, sd 2461 ft.

JEFFERSON DAVIS PARISH—Amerada-Stanolind's Calcasieu National Bank 1, China prospect, 28-7s-3w, cleaning out hole 9139 ft. Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, fsh 9749 ft. Stanolind's United Life Insurance 1, Hayes prospect, 16-11s-5w, ru.

LAFOURCHE PARISH — Fohs Oil Co.'s State Long Lake 1, in Long Lake, 65-17s-19e, ru. William Helis' City of New Orleans 1, Marchland prospect, 19-23s-23e, reaming 5943 ft.

PLAQUEMINES PARISH—Tide Water Associated Oil Co.'s Manhatten Fruit 2, Venice dome, 26-21s-30e, coring sand and shale 7233 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr shale 5010 ft. Southern Sulphur Co.'s State 2, Lake Borgne area, 38-14s-15e, dr shale 2195 ft.

ST. LANDRY PARISH—Shell's Boagni 1, ne of Cankton, 48-8s-4e, lcn.

ST. MARTIN PARISH—Stanolind's Numa Patin 1, Anse La Butte, 46-9s-5e, dr shale 5362 ft. Texas Co.'s State Mongouloi 3, Lake Mongouloi prospect, 14-10s-9e, waiting on dk; same operator's St. Martin Land Co. 9, Henderson prospect, 21-8s-7e, dr shale 8326 ft.

ST. MARY PARISH — Texas Co.'s State Bateman Bay 1, Morgan City prospect, 21-16s-12e, driving piling; same operator's State Wax Lake, Wax Lake prospect, 40-17s-9e, dr shale 10,728 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma gas field, 23-19s-19e, dr shale 9343 ft.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, fsh 12,216 ft.

MICHIGAN

ARENAC COUNTY—Mee & Wright's Yawkey 1, sec 28-18n-4e dr 315 ft. Petroleum Corp.'s LaFave 1, 17-18n-5e, dr 1100 ft.

GLADWIN COUNTY — McClanahan Oil Co.'s Avery 1, 10-17n-1e, rig. Cryden Petroleum Co.'s Gary 1, 34-19n-1w, rig.

GRATIOT COUNTY—Chas. Anderson's Askergrad 1, 9-9n-1w, sd 521 ft. Sam Siegel tr.'s Kerr 1, 36-10n-1w, sd 2200 ft. H. B. Cowdrey's DeVuyst 1, 11-10n-2w, rig.

MONTCALM COUNTY—C. E. Weller's Herzog 1, 14-12n-8w, dr 1460 ft. R. E. Gallagher's Hayden 1, 25-11n-7w, sd 3115 ft.

WASTHENAW COUNTY—Ypsilanti Development Co.'s Voorhes 1, 32-2s-7e, dr 1290 ft. Lee Brown's Kehrl 1, sec 12-1s-7e, dr 3300 ft.

WAYNE COUNTY—Maron River Oil Co.'s Scheffler 1, sec 26-3s-8e, sd 1200 ft. Wolverine Driller's Gadrulski 1, 19-2s-9e, dr 700 ft. Darke Brother's Trusdell 1, sec 25-2s-8e, dr 760 ft.

MISC. COUNTIES: Cass — L. T. Barber's Beebe 1, 3-5s-15w, lcn. Clare-Wittman & McClanahan's Musgrove Sales 1, 3-18n-5w, sr 1900 ft. Hillsdale—Hughes Heinig's Daley 1, sec 10-7s-4w, dr 1810 ft. Ionia—Boston Oil Co.'s Marshall 1, nw ne sw 6-8n-6w, mim. Isabella—H. E. Bell's Delo 1, sec 17-13n-5w, dr 3490 ft. Lake—R. B. Tamblyn's Cashion 1, 25-18n-13w, dr 2340 ft. Tuscola—Smith Petroleum Co.'s Brink 1, sec 23-14n-7e, dr 1900 ft.

MISSISSIPPI

AMITE COUNTY — J. P. Wemple, Tr.'s (North Central Texas Oil Co.), Southern Forest Land Co. 1, sw sw 29-4n-2e, mir (5200 ft test).

GRENADA COUNTY—H. T. Salter et al's Carpenter 1, nw se 5-21n-7e, mim.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, se se 13-7s-10w, co 2150 ft.

HINDS COUNTY — State of Mississippi's Fee 2, nw nw 25-6n-1e, elev 326.5 ft, coring 4632 ft, reddish brown shale.

JONES COUNTY—Snow-Black Pet. Co.'s Cranford 1, s½ nw 29-7n-12w, spd and sd.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, 6-10n-14e, dk.

LAMAR COUNTY—Sun Oil Co. et al's Mrs. K. Talley 1, se sw 28-4n-15w, rur.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, rog.

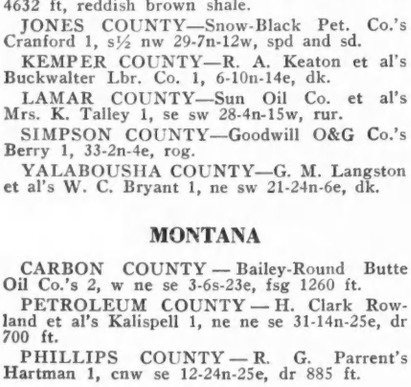
YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, dk.

MONTANA

CARBON COUNTY — Bailey-Round Butte Oil Co.'s 2, w ne se 3-6s-23e, fsg 1260 ft.

PETROLEUM COUNTY — H. Clark Rowland et al's Kalispell 1, ne ne se 31-14n-25e, dr 700 ft.

PHILLIPS COUNTY — R. G. Parrent's Hartman 1, cnw se 12-24n-25e, dr 885 ft.



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WYOMING

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw sw 6-19n-83w, run 6⅝-in. liner to bottom at 3050 ft. with 8⅝-in. csg set at 2875 ft. Set csg. bridge at 2875 and are preparing to drill in to test so in Niobrara shale at 2900-3050 ft.

GOSHEN COUNTY—Ohio Oil Co.'s Red Cloud Cattle Co. 1, ne nw 28-29n-62w, dr 2260 ft.

LARAMIE COUNTY — Amerada Petroleum Co.'s Morton 1, csw sw 13-13n-68w, dr 8800 ft.

PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-37n-100w, fsg at 4884 ft. td at 5684 ft.

WESTON COUNTY—Conway Oil Co.'s Government 2, se ne nw 7-41n-60w, testing Minnelusa sand at 2314-38 ft., may deepen.

UTAH

GRAND COUNTY—Columbia Crude Corporation's Rath-Government 1, ne sw 12-25s-20e, re-running 7-in. csg for water shut off at 2033 ft. so at 2135-38 ft. will test. Utah-Southern Oil Co.'s Hyde-Government 1, s nw nw 32-22s-20e, resuming at 6363 ft. after shut down on account of weather.

NEW MEXICO

LEA COUNTY — Anderson-Prichard Oil Corp.'s E. J. Wells-Conoco 1, c se se 5-25s-37e, mim. Baldridge & Kroenline's Blakey 1, c nw ne 5-20s-38e, elev 3586 ft, base salt 2680 ft, first sul w 4205-20 ft, dry and abnd 4430 ft. Jim Brown & Reynolds' Parcell-Conoco 1, c nw se 8-21s-36e, elev 3573 ft, base salt 2820 ft, top anhydrite 1616 ft, first show oil 4335-43 ft, td 4373 ft, flowed 28 gravity oil by heads, killed to set cas. C. L. Carlock et al's Quincy-Ricker 1, c se se 7-16s-36e, elev 3945 ft, top anhydrite 1975 ft, td 5512 ft, dry and abd. Amon G. Carter et al's E. M. Elliott 2, c ne nw 22-22s-37e, elev 3375 ft, shot 240 qts 3540-3600 ft, td 3622 ft, fsh tools. J. C. Clower et al's W. H. Turner 2, sw sw se 29-21s-37e, machine. Continental Oil Co. et al's Danciger 1, c nw ne 8-23s-36e, dk; J. M. Skaggs 1, c ne se 24-20s-37e, elev 3555 ft, dr 1430 ft. Culbertson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, elev 3108 ft, pb fr 3277 ft, re-dr 3255 ft; Stuart-Repollo 3, ne se sw 10-25s-37e, elev 3111 ft, lcn. El Paso Nat'l Gas Co.'s W. H. Harrison 1, c nw nw 7-25s-37e, elev 3181 ft, show o&g, cem 7-in csg 3351 ft, td 3558 ft; Harrison 2, c nw nw 29-24s-37e, elev 3290 ft, show gas, dr 3640 ft; Geo. W. Toby 1, c se se 12-24s-36e, elev 3322 ft, show oil, cem 7-in cas 3257 ft, td 3685 ft. Empire O&R Co.'s R. L. Brunson 1, nw nw se 4-22s-37e, elev 3446 ft, top anhydrite 1140 ft, pay 3691-3750 ft, flowed 104 bbls oil 36 hrs, sd for acid. A. R. Eppenauer et al's F. B. Stuart-Amerada 1, ne ne ne 22-25s-37e, elev 3082 ft, top anhydrite 1000 ft, top salt 1200 ft, making gas, sd 2905 ft. J. E. Farrell & Co.'s E. W. Walden-Amerada 1-A, c sw nw 15-22s-37e, elev 3407 ft, td 3551 ft, rust; Walden-Amerada 1-C, c sw sw 15-22s-37e, elev 3385 ft, increase oil 3563-69 ft, dr with 600 ft oih 3615 ft. Geo. F. Getty Oil Co.'s Etz-Conoco 1, c ne ne 12-21s-32e, elev 3822 ft, trace gas 3185 ft, filled 2000 ft sul w in 15 min at 3515-3517 ft, dry and abd. Gulf Oil Corp.'s C. L. Hardy 1, c se sw 20-21s-37e, elev 3492 ft, dk. Herschbach Drlg. Co.'s Seth Alston-Conoco 1, c sw ne 31-17s-37e, dk. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft, lcn. Magnolia Pet. Co.'s Will Cary 2, c ne sw 21-22s-37e, elev 3359 ft, top lime 2765 ft, dr 3035 ft; State 1-G, nw nw ne 24-17s-34e, elev 4019 ft, top anhydrite 1700 ft, top lime 4378 ft, sul water 4902-05 ft, filled 2500 ft with w in 3½ hrs, pb to 4775 ft. Maljamar O&G Corp.'s Baish 8, c sw ne 21-17s-32e, elev 4022 ft, dr 1460 ft. J. L. Perry et al's E. M. Elliott 1, se se se 19-21s-37e, elev 3496 ft, rig. Plains Prod. Co. et al's J. A. E. Knight-Humble 4, c sw sw 22-24s-37e, elev 3225 ft, dr 2325 ft. Repollo Oil Co.'s Fowler Hair 1, nw nw nw 9-24s-37e, elev 3267 ft, dr 650 ft; Robt. Jamison 2, sw sw nw 22-24s-37e, elev 3236 ft, td 3392 ft, tested 4,710,000 ft dry gas, testing; R. L. Mosley 1, nw sw se 34-24s-37e, dr 430 ft. Samedan Oil Corp.'s S. B. Hughes 3, c ne se 4-23s-37e, elev 3311 ft, dr 240 ft. Shell Pet. Corp.'s J. F. Black 2, c sw se 21-24s-37e, elev 3219 ft, dr 1580 ft. Skelly Oil Co.'s Ellen Sims 2, c sw ne 3-23s-37e, elev 3301 ft, cem 7-in cas 3400 ft, rust; J. V. Baker 4, c sw nw 27-22s-37e, elev 3341 ft, sp; R. R. Sims 2, c ne sw 3-23s-37e, elev 3298 ft, dr 3400 ft; R. R. Sims 1-C, c se sw 3-23s-37e, elev 3297 ft, dr 3410 ft. Stanolind O&G Co.'s C. Myers 1, c ne sw 22-24s-37e, elev 3256 ft, cem 7-in cas 3265 ft, td 3372 ft, rust. Mac Stauffer et al's L. E. Grizzell-I.T.I.O. 1, c nw ne 8-22s-37e, elev 3425 ft, dr 545 ft. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft, pay 3560-3600 ft, flows by heads, dr 3640 ft. Sun Oil Co.'s I. R. Stuart 2, c sw ne 15-25s-37e, dk. The Texas Co.'s J. P. Alexander 1, c lot 14, 5-21s-37e, elev 3490 ft, dr 3065 ft; Jas. F. Black 2, c ne sw 21-24s-37e, elev 3231 ft, dr 930 ft. Tide Water Associated Oil Co.'s Coates 1-B, c nw nw 21-25s-37e, elev 3073 ft, pb fr 3077 ft to 3029 ft, shot 160 qts 2917-3027 ft, testing; Ann Walden 2, c sw ne 21-22s-37e, elev 3360 ft, dr 2655 ft.

ROOSEVELT COUNTY—Clovis Dev. Co.'s S. Smith 1, c se ne 17-2s-30e, elev 4597 ft, fsh 2090 ft. Franklin Oil Corp. et al's Rual Giphant 1, nw nw nw 28-3n-30e, elev 4458 ft, dr 5005 ft.

OKLAHOMA

ATOKA COUNTY—A. J. Sander's Redden 3, se sw sw 19-1n-5e, sd 1260 ft.

BECKHAM COUNTY — Carter Oil Co.'s Garrett 1, ne ne ne 11-7n-25w, dr 544 ft.

CARTER COUNTY—Lyle-Wham Dev. Co.'s Jackson 1, cne sw sw 26-5s-1e, sd 748 ft.

CHOCTAW COUNTY—Cooper & Branstetter's Bell 1, cnw ne 29-6s-17e, sd 1187 ft.

CLEVELAND COUNTY — Helmerich & Payne's Glenn 1, cnw ne 6-8n-1w, dr 7482 ft.

COAL COUNTY—Ruwaldt & Couch' McMillan 1, sw sw sw 10-1s-8e, td 1150 ft. Continental's King 1, ne sw ne 26-1n-8e, P 69 bbls oil, 8½ hrs and PO, comp. Continental's Kirby 1, sw se sw 23-1n-8e, td 4690 ft, D&A. Continental's Breedlove 1, nw sw sw 24-1n-8e, td 6054 ft, D&A.

COMANCHE COUNTY — Frank Scott's Kuntz 1-A, cse ne se 21-4n-11w, dr 2190 ft. C. V. Morris' Young 1, se ne se 24-3n-10w, sd 822 ft.

COTTON COUNTY — Phillips Pet. Co.'s Moore 1, csw sw ne 6-5s-12w, dr 1490 ft.

CREEK COUNTY—J. E. Crosbie & Sinclair Prairie's Bailey 1, ne nw nw 28-16n-8e, dr 1605 ft. W. J. Sherry's Childers 1, sw sw nw 2-15n-7e, spud.

GARFIELD COUNTY — Arab Oil Co.'s Harkendorf 1, ne ne ne 34-20n-3w, set 12½-in csg 237 ft.

GRADY COUNTY—R. E. Johnson et al's Thomas 1, sw se sw 18-5n-7e, mir.

HARMON COUNTY—Lioalko Trust, Ltd.'s Crosnoe 1, se se sw 14-3n-25w, co 2980 ft.

HUGHES COUNTY—Carson Oil Co.'s Lyter 1, ne nw sw 31-8n-12e, dr 3405 ft. C. J. Wrightsman's Diamond 1, ne ne se 33-9n-9e, shot off dr pipe, 3055 ft. Mid West Oil Co.'s Turner-Lucas 1, cse nw 13-9n-9e, gauge 28,000,000 cf gas, si.

JEFFERSON COUNTY—Buffalo Oil Co.'s Crown-Over 1, cse se nw 21-6s-6w, td 1148 ft. Massad & Swansberger's Barrett 1, ne se se 14-6s-6w, td 1530 ft, sd.

JOHNSTON COUNTY—Patton et al's McCrummen 1, sw sw ne 16-1s-6e, dr 883 ft.

KAY COUNTY—G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, sd. Ritz O&G Co.'s State 1, nw ne sw 16-29n-2w, dr 3350 ft.

KIOWA COUNTY—McWherter & Francis' Padgett 1, ne nw se 3-5n-17w, sd 610 ft. Argus Pet. Co.'s Osbourne 1, nw nw ne 9-7n-16w, fsg 1225 ft.

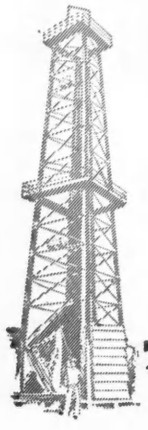
LATIMER COUNTY—Cheyenne Oil Co.'s Wilson 1, cse se 15-5n-18e, sd.

LINCOLN COUNTY—Mid-Continent Pet. Corp.'s Logan 1, ne ne se 31-11n-5e, surv hole. Anderson-Prichard's Colon 1, nw se sw 28-17n-4e, dr 3860 ft.

LOGAN COUNTY — Harry Blackstock's Prince 1, se ne sw 11-17n-3w, dr 4280 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, to pb.

MARSHALL COUNTY—Stewart & Taylor's



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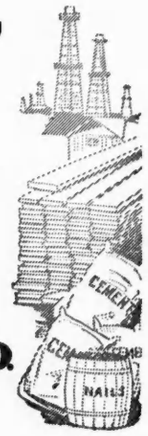

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Chestnut 1, ne ne ne 23-8s-5e, ur 5 3/16-in csg.

MURRAY COUNTY—Russell's Fee 1, se nw se 9-2s-3e, ur 8-in csg 1000 ft. Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, dr 3411 ft.

OSAGE COUNTY—Norbla Oil Co.'s No. 1, ne ne se 13-23n-6e, dr 555 ft.

PAWNEE COUNTY — Forest Dev. Co.'s Greisel 1, cnw ne 21-21n-5e, dr 2500 ft. Forest Dev. Co.'s Markham 1, sw ne se 10-21n-5e, rig.

PAYNE COUNTY—H. F. Young's Jenkins 1, se ne se 4-17n-3e, dr 4595 ft.

PITTSBURG COUNTY—Okla. Dist. Co.'s Beeler 1, ne ne sw 7-7n-14e, dr 4975 ft.

PONTOTOC COUNTY — E. H. Moore's Muse 1, sw ne se 33-2n-7e, dr 4065 ft.

POTTAWATOMIE COUNTY — Champlin Ref. Co.'s Buckler 1, se ne ne 7-6n-4e, rig. B. H. Rowlett et al's Burson 1, sw sw ne 21-9n-4e, lcn.

PUSHMATAHA COUNTY—Erle Halliburton et al's Bogwell 1, sw ne ne 30-3s-15e, dr 790 ft.

SEMINOLE COUNTY—Carter et al's Simpson C-48, sw sw ne 7-8n-8e, td 4505 ft, D&A. Hudson et al's Tanyan 1, se se sw 32-10n-7e, bldg. Sinclair Prairie's Rossanna 1, nw nw sw 28-10n-8e, woc. Papoose Oil Co. et al's Yarber 1, sw sw nw 15-11n-8e, rur.

STEPHENS COUNTY — Coline Oil Co.'s Johnson 1, csw se nw 1-2n-8w, sdo 6500 ft. Edward's Frederick 1, ne se nw 31-2n-8w, sd 2800 ft. Carter's Harley 1, cne ne 24-2s-4w, dr 1227 ft. Wm. Angle et al's Posey 1, cnw nw 8-1n-8w, woc 102 ft. Helmerich & Payne's Graham 1, csw sw ne 12-1n-5w, td 90 ft, woc. Ed Parson's Olson 1, csw sw 21-2n-8w, td 7002 ft, to test. Angle & Angle's Irvine 1, csw sw ne 24-1n-7w, lcn.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, pb 2750 ft, flow 4,100,000 cf gas, comp. Cabot Carbon Co.'s Castro 1, cne 19-3n-17ecm, bldg der. Missouri Valley Gas Corp.'s Fitzgerald 1, C Section 17-6n-14ecm, lcn.

TILLMAN COUNTY—I.T.I.O. Co.'s Hatler 1, csw ne 32-2s-17w, swb 63 bbls oil, no wtr, 24 hrs. Skinner's Oliver 1, se se nw 22-1s-15w, dr 1347 ft.

WASHITA COUNTY—McWherter et al's Fee 1, sw sw sw 34-8n-19w, sd 1754 ft.

EAST TEXAS

ANDERSON COUNTY—Tom F. Hunter, American Liberty Oil Co. & Jack W. Frazier's G. E. Gage 1, (160-ac), C. B. Gilbert sur, 2 mi se Blackfoot, elev 384 ft, Pecan chalk 2850-3004 ft, top Austin chalk 3980 ft, top Woodbine 4784 ft, tested sw 4675-4827 ft, dr 4850 ft. Tide Water Associated-Seaboard Oil Corp.'s Monnig Bros. 7 (3806.82-ac), Simon Sanchez sur No. 1-11, Long Lake field Trinity test, elev 233 ft, Pecan chalk 3545-3745 ft, Austin chalk 4687-4957 ft, top Woodbine sand 5273 ft, top Georgetown lime 5904 ft, dr 6403 ft. Roeser-Pendleton, Inc.'s V. W. Bowyer 3 (200-ac), E. Ritter sur, Cayuga field Trinity test, rur.

BOWIE COUNTY—Ferguson & Hill's A. Y. Breckenridge 1 (412-ac), Nancy Dycus sur, 4 mi w Texarkana, top Nacatoch 740 ft. top chalk 1308 ft, coring 2110 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 4404 ft. Sutton & Hawkins' D. L. McDuffie 1 (336-ac), John Ball sur, 3 mi se New Boston, top Annona chalk 1472 ft, elev 333 ft, dr 3335 ft.

CHEROKEE COUNTY—Gen'l. Crude Oil Co. et al's O. A. Braly 1, (208-ac), J. Thomas sur, 1 mi se Nixon, Pecan chalk 3244-3545 ft, Austin chalk 4070-4244 ft, top Woodbine 4276 ft, dry and abd in sw sand 4277-4282 ft. Joe Sanders et al's J. W. Ware 1, J. Trimble sur, dk.

DALLAS COUNTY—Mauldin Oil Co.'s W. E. Howell 1 (107.7-ac), S. Layton sur, rur.

DELTA COUNTY—F. J. Estes et al's W. S. McGee 1 (207-ac), J. G. Oliver sur, 2 mi sw Klondike, elev 449 ft, dr 2170 ft. W. S. McGee et al's Mrs. P. W. Miller 1, (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Woodbine Red Beds 2650 ft, top Georgetown lime 3040 ft, top Paluxy series 3800 ft, dry and abd 4220 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League 5 mi sw Kosse, elev 521 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, dr hard lime 4428 ft.

FREESTONE COUNTY—C. A. Everts et al's O. W. Killam 1 (840-ac), John Robbins sur, 6½ mi se Fairfield, Red Lake area, elev 368 ft, Pecan chalk 3505-3650 ft, base Austin chalk 4987 ft, dry and abd in salt w, td 5158 ft. Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, Pecan chalk 2175-2286 ft, top Austin chalk 3117 ft, td 3870 ft, jkd and abd, may skid rig.

GRAYSON COUNTY—Olson Drl. Co., Jas. H. Gardner, Broswood Oil Co. et al's D. R. Utiger 1 (160-ac), P. P. Cary sur, 5 mil nw Denison, Preston Anticline, elev 722 ft, base Trinity series 930 ft, top Woodford chert 955 ft, top Viola cherty-lime 1570 ft, top Stringtown shale 1854 ft, top lime 2415 ft, dr shale 3915 ft.

HENDERSON COUNTY—Humble O & R Co., Tide Water Associated & Seaboard Oil Corp.'s McElreath-Suggett 1-C (149-ac), W. P. Wyche sur, 1½ mi nw Opelika, Trinity test, sp. E. B. LaRue et al's Amicable Life Ins. Co. 1 (1851-ac), Phillip Jackson sur, 2½ mi w LaRue, Trinity test lcn on LaRue salt dome.

HOPKINS COUNTY—Empire O & R Co.'s J. E. Worsham 3 (149.36-ac), A. O. Wetmore sur, Sulphur Bluff area, elev 430 ft, Pecan chalk 1510-90 ft, top Georgetown lime 3665 ft, dr 4400 ft. Walter L. Goldston-Big State Oil Corp.'s H. J. Smith 4 (450-ac), J. A. Craft sur, elev 442 ft, top Paluxy series 4484 ft, pay 4506-4538 ft, showing for good well. D. S. Hager & W. P. Luse's J. G. Reynolds 3 (200-ac), A. O. Wetmore sur, elev 418 ft, Pecan chalk 1428-1513 ft, dr 4200 ft. Hager, Luse & Russ Pet. Co.'s Mrs. Rooney Long 1 (39.86-ac), A. O. Wetmore sur, elev 444 ft, Pecan chalk 1520-73 ft, cut through fault near 4320-30 ft, oil pay 4418-4517 ft, td 4518 ft in shale, testing. W. P. Luse & Russ Pet. Co.'s Pierce 1 (97-ac), J. A. Craft sur, mim. F. D. Jones Drl. Co. et al's Mrs. S. B. Pierce-Gulf 3 (300-ac), J. A. Craft sur, elev 430 ft, Paluxy section 4462-4506 ft, completed 60 bbls oil per hr initial; Pierce-Gulf 4, elev 438 ft, Pecan chalk 1528-1600 ft, Paluxy pay 4434-4490 ft, testing. Shell's J. G. Reynolds 1 (200-ac), A. O. Wetmore sur, elev 424 ft, Pecan chalk 1510-1614 ft, top Paluxy pay 4517 ft, coring 4520 ft.

HOUSTON COUNTY — American Liberty Oil Co. et al's J. A. Bean 1 (61-ac), Green Evans sur, Grapeland area, top broken Pecan chalk 4623 ft, hard chalk 4652 to 4899 ft, dr 5160 ft. A. D. Hudspeth and Sunray Oil Co.'s A. B. Spence 1 (291.2-ac), Collin Aldrich sur, 2 mi sw Grapeland, Pecan chalk 4660-4962 ft, dr, 5050 ft. Hunt Oil Co.-Shell Pet. Corp.'s J. E. Elliott 1 (200-ac), J. M. Procella sur, lcn. E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, sd 700 ft. Ridgeway and Jackson's H. F. Moore 2 (53-ac), H. Mester sur, 2 mi se Crockett, dk.

HUNT COUNTY—Penn Oil Corp., Elmer S. & Fox Wood's A. B. Parrish 1 (200-ac), Nancy Danley sur, 7 mi ne Lone Oak, dk. Stanolind O & G Co. et al's L. B. Moore 1 (92-ac), R. Ragsdale sur, 2½ mi w Campbell, lcn. Superior Oil Co. (Cal.), Moncrief & Showers, Inc., Ed Hyde & W. L. Pickens' P. B. Paul 1 (160-ac), Mary Latham sur, 5 mi ne Quinlan, elev 489 ft, top Washita 3425 ft, top Georgetown 3596 ft, Fredericksburg lime 3979-4010 ft, top Goodland lime 4231 ft, top Paluxy series 4237 ft, top anhydrite stringer 5190 ft, top massive anhydrite 5339 ft to 5450 ft, top Red Beds 5470 ft, dr 5600 ft. The Texola Land Corp.'s J. M. Goin 1 (250-ac), Jas Merrick sur, 2 mi sw Wolfe City, sp and sd.

KAUFMAN COUNTY—J. M. Scott and J. B. Woodside's Wood & Temple Nash 1 (80-ac), Juan Cortez sur, 1 mi e Scurry, lcn.

LAMAR COUNTY—H. Salmon, Lowery & Cutler's E. C. Porter 1 (30-ac), Thos. King sur, 3 mi ne Chicota, elev 421 ft, Woodbine series 168-242 ft, top Georgetown lime 354 ft, sd 2500 ft.

LEON COUNTY—H. M. Ogg et al's O. Wiley 1, E. Devinney sur, 1 mi w Buffalo, dk.

LIMESTONE COUNTY—Pure Oil Co.'s W. B. Kendrick 16 (96-ac), Pedro Varella sur, 3 mi w Mexia, lcn for Trinity test. A. W. Phillips, J. Johnson et al's E. M. Speight 1 (136½-ac), M. Herrin & Pedro Varella sur, 4 mi ne Groesbeck, elev 415 ft, Pecan chalk 2450-2520 ft, Austin chalk 2720-3003 ft, sd 3695 ft.

RAINS COUNTY—Humble's O. L. J. Easter 1 (39¾-ac), R. Hotchkiss sur, 4½ mi e Emory, elev 438 ft, top Woodbine 4225 ft, top Washita 4970 ft, top Georgetown 5003 ft, top Paluxy series 6079 ft, top 1st Glen Rose lime 6347 ft, top anhydrite 6985 ft, dr 8350 ft.

RED RIVER COUNTY — Carpenter Oil Corp.'s R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi n Clarksville, elev 459 ft, top Red Beds 1250 ft, top Paluxy series 1845 ft, sd 2018 ft, to dd to lower Trinity; J. M. Roberts 1 (100-ac), J. Ware sur, 10 mi ne Clarksville, top Paluxy sand 1135 ft, cored 6 ft oil stained sand, sd for cas

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1-A (75-ac), Geo. A. Nixon sur, 3 mi sw Hearne, rig.

TITUS COUNTY—J. Z. Werby et al's Sam Williams 1 (40-ac), M. E. P. & P. Ry. sur, Talco area lower Trinity test, elev 341 ft, top Paluxy series 4275 ft, sw at 4498-4510 ft, dr 5210 ft. J. V. McMahon, Geo. H. McIntyre et al's J. B. Stevens, Jr. 1 (777½-ac) J. Muechen sur, 7 mi sw Mount Pleasant, elev 349 ft, Pecan chalk 2290-2600 ft, lost drill pipe 5051 ft, pb and redr 4640 ft.

VAN ZANDT COUNTY—American Liberty Oil Co.-Geo. Greer et al's J. A. Freeman 1

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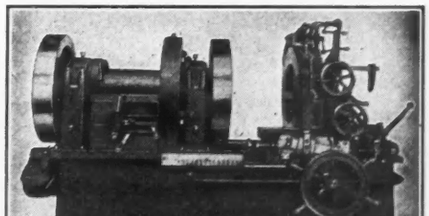

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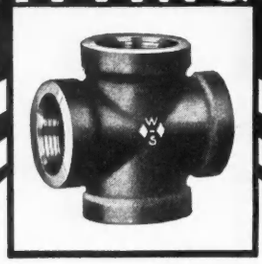

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(92½-ac), J. Walling sur, se edge Van field, elev 515 ft, Pecan chalk 1842-1946 ft, Austin chalk 2718-2936 ft, top Woodbine series 3160 ft, top lime 3835 ft, dr 4550 ft. Humble's L. K. Riggs 1 (26-ac), Wm. Daniel sur, ne edge Van field, Trinity test, lcn. Stroud and E. N. Lowe's P. L. McNeill 1 (104-ac), J. W. Guest sur, 4 mi n Ben Wheeler, elev 510 ft, sp and sd.

SOUTH TEXAS

ARANSAS COUNTY—Barnsdall Oil Co.'s Kate J. Edwards 1, Lamar Townsite, Wm. Lewis sur, blew out, controlled, td 7997 ft, inserted swedge nipple on csg, began making little oil, was making est 12 barrels per day, plus 30 to 40 barrels brackish water. Kate Edwards 1-A, 660 ft southwest No. 1, set surface casing. W. J. Collins and Broughton Wilkerson's McCampbell Ranch 1, blk 10, McCampbell subd, McCampbell area, woc 1500 ft, waiting on cement.

ATASCOSA COUNTY—Frontier Oil Co.'s Oppenheimer 1, 193.4 acre tract Sharp survey No. 518, bottomed around 2800 ft, had little oil show, washing down. Helvetia Oil Co.'s Susie Pratt 2, 176-acre tract, F. de la Garza sur, Anchorage prospect, top serpentine 3085 ft, perf liner 3150-3208 ft, plug back 200 ft, had little oil show, set new whipstock.

BANDERA COUNTY—A. T. Crane et al's R. B. Watson 1, A. C. Curver survey No. 72, fsh 2035 ft.

BEE COUNTY—Benson & Jones' G. A. Ray 1, 40-ac tract, Anna Burk survey, dr 5350 ft. W. C. McBride, Inc.'s Brown & Hanson 1, H. Harrell survey A-501, dr 1888 ft. J. R. Dougherty et al's Weiss 1, 760-ac lease, J. M. Uranga gr, ru. Two Rivers Oil Co.'s Hartzendorf 1, center lot 6, A. Hartzendorf subd, G. A. Kerr survey, Pettus sand 3650-70 ft, td 3909 ft, swabbed little oil after perforating 3649-57 ft.

BEXAR COUNTY — American Gas Co.'s Oliver 5, 400-acre tract, M. F. Rodriguez sur, Gas Ridge, co 3425 ft. Albert Chmel's McIntosh 1, J. W. Garrity sur No. 19, td 790 ft, prep to dd. L. K. Oil Co.'s Bilhartz 1, 382-ac tr, F. Rolen sur 48, wor 40 ft. P. N. McCullough's Bitter 1, 300-ac lease, Jose M. Bairera sur No. 58, dr 180 ft. Woodward, Hardie & Herrold's Herman Sons 1, 2019-ac tract, Henry Pace league, sur 37, tract 9, Swearingen, Cassin and Tayloe sub, junked and abnd 1720 ft.

BROOKS COUNTY—Texas Gulf Prod. Co.'s T. S. Proctor 1, blk 2, sec 20, Los Olmos and Loma Blanca survey, ru and sd.

BLANCO COUNTY—E. L. Nixon's H. Henberger 2, Adolph Joras sur, 723, dr 704 ft.

CALDWELL COUNTY—Brown Drlg. Co.'s G. M. Blackwell 1, John Roe sur, td 2191 ft, top Edwards 2346 ft, waiting on pump. Easton & Manning's W. E. Laeler 1, 126.8-ac tr, Pinchback sur, set 5-inch casing 1996 ft, td 2125 ft, comp 120 bbls. G. A. McDonald's W. F. Trammel 1, 113-ac lease, H. Hunter sur, sd 550 ft. McKenzie's J. M. Pierce 1, S. Seal league, ds stuck 1980 ft. Millican & Norman's Talbert 1, J. Henry sur, Luling, lcn. Mrs. E. B. Whittington et al's Sam McMahan 1, James Pinchback sur, 50-acre lease, testing 2060 ft.

DE WITT COUNTY—Southwestern Dev. Synd.'s Poetter 1, 591-ac tr, Obid Marshall sur, top Cockfield 3184 ft, sand 4220-49 ft, cleaning into pits, 6 bbls per hour, ½ oil.

DUVAL COUNTY—Argo Oil Co. and John Clopton's Smith-Corkill 2, sur 498, Lower Gov't Wells sand 2775-80 ft, tested salt water, will plug back to perf, sand 2670-88 ft. A. J. Brinkoters' State 1, sur 215, sd 2511 ft. C. K. Gravis, Jr.'s Holzapfel 1, J. Poitevent sur No. 44, loc. Hiawatha O&G Co.'s Harberger 1, sec 14, Ball Ranch sub Santos Flores Agua Poquita gr dr 3240 ft. Alfred O. Oskness et al's Miller 1 sec 24, Ball Ranch sub-division Santos Flores Agua Poquita gr, dr 2735 ft. Humble's Clara D. Sevier 1, J. Harres sur 329, dr 3363 ft. Magnolia's A. L. Labbe 1, sur H&H, sec 1, so 2904-10 ft. William D. Mastin et al's D. Ruiz 3, G. Ruiz sur 128, abd 2611 ft. Oliver Oil Co.'s K. Shaffer 1, s¼ sur 146, abd 4016 ft. Rio Bravo and Coates, W. R. Peters 2-C, n½ ne¼ sur 118, dr 2000 ft. Texas Co.'s L. C. Morris 1, sur 133, G. B. & C. N. G. abnd 2941 ft.

EDWARDS COUNTY—Dan Auld's Rigsby 1, sec 16, blk 1, GE&SF sur, dr water well. Plateau O&G Co.'s Hatch 1, J. W. Hays HE&WT sec 66, dr 5160 ft.

FAYETTE COUNTY—McNeil Pet. Co.'s V. Dubala 1, A. Thompson league, dr 250 ft.

FRIO COUNTY—Amerada's Harrigan 1, blk 77, Salvador Flores sur, lcn. Halff & Oppenheimer 7, E. J. Gilman sur, Pearsall, co 5573 ft; Halff & Oppenheimer 8, San Antonio Ditch sur 1104, td 6230 ft, 5½ in tubing, 182 bbls fluid 30 percent salt water, 6 percent bs and rest oil in 23¾ hours, dr ahead to 10,000 ft.

GOLIAD COUNTY—R. B. Swiger's Wood 1, blk 23, Swiger subd, Wood Ranch, George Villa sur, dr 3178 ft.

GONZALES COUNTY—Victoria Drlg. Co. (M. S. Holliday et al) T. G. Edwards 1, W. W. Pace 1/3 league, blk "A" Holliday sub, sd 1174 ft.

GUADALUPE COUNTY—J. L. Collins' F. H. Wornecke 1, 330-ac tr Arch Gibson sur, dr 1850 ft. Louis Crough et al's Mary E. King 1, 80-ac lse, J. D. Clements sur, td 1520 ft, mi heavier rig. La Jits Corp's Dan Denman 2, Wm. Arrington sur td chalk 2279, oil show, set 7-in 2274 ft, acidized 2000 gals, flowed-swabbed 145 bbls per day, run tubing. Long & Roos' Ed Felix 1, 75-ac tr, V. Duran sur, sd 634 ft. Nick Marosis et al's Wm. Maierhofer 1, 100-ac tr, L. A. Peters sur, abnd 2020 ft. Dave T. Mulhalland's T. W. John 1, J. Davis sur, sp. Walter Myrrick et al's (was W. J. Dobbs et al) Gus Jahns 1, 100-ac lse, J. K. Davis sur, ru at 2461 ft to dd. Perot Oil Co's John Priestly 1, 53-ac tr, G. W. Williams sur No. 26, dr 1006 ft. Riddle Oil Co's Nid Herff 1, ne cor 50-ac lse, Eligio Gortari sur, dr; E. Nolte et al 2, 60-ac lse, John Sowell sur, dk. J. B. Stoddard et al's Eliza Harris 1, Green DeWitt sur 11, set csg broken streaks of hard chalk 2036-63 ft, td 2141 ft, so, swabbing. W. J. Walton et al's Martin Hoffman 1, Green DeWitt sur No. 1, testing 2665 ft.

HAYS COUNTY—R. D. Kelly's W. P. Donalson et al 1, 105-ac tr, J. Vermante gr, td 890 ft, re-drill. Mallory-Holcomb and Nance's J. A. Hudenrich 1, 496-ac tr, I. J. W. Hemphill sur, sp & sd.

HIDALGO COUNTY—Gulf States Oil Co's Fairbanks & Young 1, blk 44, Porc 44, Porc 46, dr 2180 ft. Sterling O & R Corp's J. C. Engelman 1, lot 5, M.T.L. & I. subd, dr 5400 ft. Union Sulphur Co et al's American et al 7, tr 2309, blk 59, Capisillo Dist. td 7608 ft to perf 7500 ft to bring in as gasser.

JIM WELLS COUNTY—Arkansas F O Co's Bierstadt 1, blk 32, Joseph Reynolds sur, sp. R. B. Swiger et al's Robert Adams 1, R. Adams sur 122, dr 3000 ft.

JIM HOGG COUNTY—J. W. Adams' Allen 1, sec 84, B.S. & F. sur, locn. French Oil Corp's Paula V. de Garza 1, survey 269, fsh 2620 ft. Gifford Oil Co's Armstrong 1, sur 43, sd 3609 ft. J. H. Meek, Jr.'s Martinez estate 3-A, sur 623, abnd 3202 ft.

KARNES COUNTY—Victoria Drlg Co's John Yanta 1, S. G. Hardaway sur, sd 1320 ft.

KENDALL COUNTY—Claude Smith's J. M. Gerfers 1, 119-ac tr, Mark Hodgson sur, lcn.

KERR COUNTY—S. W. Forrester's J. W. Bailey 1, A. L. Starkey sur No 408, td 670 ft, hole caving.

LAVACA COUNTY—Willshire Union Oil Co's Albert Pohl 1, 120-ac tr, M. Wooten sur, sd 3000 ft.

LEE COUNTY—James E. Pederson's C. A. Turner 1, D. Hudson sur, run liner 6560 ft.

LIVE OAK COUNTY—R. H. Feltner's Sauger Ranch 1, G.C. & S.F. sur No. 385, lcn. Mazo Oil Co's Chestnut 1, 50-ac lse, Ayers sur, set sur csg. Reynolds, Richardson, Adams & Lyles' Geo West 1, lot 515, blk "D" Geo. West subd, set sur csg.

MAVERICK COUNTY—J. W. Boicourt's Edson & Estada 1, James Eaves sur 68, sd 2019 ft.

McMULLEN COUNTY — Big Rock Corp's Martin 1, 954-ac tr Weiting sur, sd 525 ft. Herman Brown's S. A. Land Bank 1, 60-ac tr, M. J. Brown sur, lcn. R. H. Feltner et al's H. W. Rhode 1, ne½ L. N. Snowden sur 18, ru. Humble's Henry F. Couger 1, se¼ A.B.M. sur ac tr, sec 3, Ezzell Ranch sub, T. Adams sur, 7-in csg 1275 ft. Loma Oil Co's L. Jacob Corp 2-B, 1102-ac tr, G.H. & H.R. sur, lcn. George Snider's B. C. Claunch 1, 100-ac tr, M. Hely sur, dr 500 ft.

MEDINA COUNTY—R. S. Bynum Jr's Mary V. Melton 2, 160-ac tr, James Frieker sur, sd 927 ft. R. G. Hill's W. B. Oden 1, 160-ac tr, sur 173, td 300 ft complete 4 bpd on pump. Gates-Hull-Meed's Emil Kreisle 1, sur 908, ru. E. M. Jenkins et al's E. B. Chandler & Co 1, 380-ac tr, sec 461, mim. J. H. Lynd & W. W. Fondren's J. H. Lynd 1, 800-ac tr, Abraham sur, dr 73 ft. R. P. Whilfield's W. Bedem 1, Henry Castro sur 177, dr 1300 ft.

NUECES COUNTY—I. J. Allen and Seaboard Petr Co's J. D. Chapman et al 2, sec 38, Laureles Farm tr, Ramon de Ynomosa gr, dst of snd 5151-66 dev 400 lbs wet gas pressure, 10 min, and 60 ft mud and gasoline, r 5873 ft. Mills Bennett's J. O. Lamb 1, 80-ac lse, out of 527.4-ac tr, Vicente Lopez de Hirrira, dr 2300 ft. Al Buchanan and Blanco Oil Co's W. S. Gandy 1, sec 60, George H. Paul subd, abnd 7302 ft. Camp Prod Co's Phillip Wardner, Tr (was Chas. E. Stratton) 1, Stratton area, dr 2480 ft. Cowan & Sorey's Annie F. Smith 1, lot 22, blk 38, Flour Bluff and Encinal Garden tr, dk. George E. Robinson's Olie Landon 1, 16.67-ac tr, sec 1, Laurles Farm tr, locn. Sloan-Harvey and Green River Oil Co's Eno. Cassena 1, sec 27, Agua Dulce farm lots, Benton Pasture subd, Antonio Longoria gr, dk. Baltic Oil Co's A. M. Poenisch 1, lot 2, blk 32, Flour Bluff field and Encinal Garden Tracts, abnd 4342 ft.

REAL COUNTY—Sun's Dietert and Op-

penheimer 1, sec 7, GWT and P RR sur, set csg 4740 ft.

REFUGIO COUNTY—Paul Meaders' Temple Lumber Co 1, sec 1, G. W. Maine sur, abnd 218, set 10-in sur 872 ft, dr 6510 ft. Wynn Drlg Co's Mrs. C. R. Roach 1, John Patrick, Thomas & Jas Douney sur, center blk 13, Morgan Bros subd, fsh 4285 ft.

SAN PATRICIO COUNTY — Buckingham Oil Co's Jean Davis 1, sec 27, Stapper subd, lcn. W. B. Craig et al's Drainage Ditch 1, 100-ac lse, M. Ramon sur, dst 4882-4921 ft, rec 1050 ft salty mud with pet taste, no pressure, 25 min, reaming for 2nd test. Eleanor Oil Co's Jean McCampbell Davis 1, 208.8-ac tr, G. Grover sur, pits dug. J. D. Williams and L. A. Douglas' F. D. Kokernot 1, 90-ac tr, sec 19, Paul subd, abnd 6521 ft. Phillips' Schmidt 1, sec 81, Pauls subd, Colman-Fulton Pasture lands, set 774 ft surface csg. Eleanor Oil Co's J. F. Green est 1, T. T. Williamson sur, sp.

STARR COUNTY—Sam Adams et al's Mrs. Donna Morris Garza 1, share 20-A, por 80, abnd 1440 ft. J. F. Anderson's Yzaguirro 1, 139-ac tr, porc 7-A, abnd 2530 ft. G. E. Dodd's B. D. Wood est 1, porc 84 Camargo, dr 1600 ft. John H. Clopton et al's Blonicio Tyerenia 3, lot 12, sh 14-C Juris of Camargo, abnd 2048 ft. John H. Clopton et al Green 1, blk 5, sh 85, porc 81, J. of Carmargo, dr 250 ft. K. E. Merren's Starr County Co 1, blk 34, Jeffries Lambeth subd, ru.

VICTORIA COUNTY—Plymouth Oil Co's J. H. Welder 1-A, Samuel Belding sur, dr 1732 ft. Shell's Houston Nat'l Bank 1, 114-ac tr, S. A. and M. G. sur 7, woc 846 ft. Union Oil Co's G. Keeran 3, M. de Leon sur, ru.

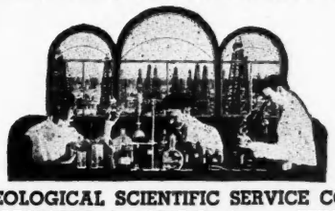
WEBB COUNTY—Mills Bennett's J. K. Kirkpatrick 1, sec 14, blk 1, G.C. S.D. and R.G. N.G. sur, lcn. Kepley Prod Co's W. C. Billings 1, sur 6, in Lopez field, lcn. O. W. Killam's Fee 1, blk 1, sur 1690, drlg 3400 ft. Mills Bennett Prod Co's Louisa Garza 1, sec 711, sur 1, 2464-66, abnd 2674 ft. Wilcox O & G Co's Dunbar 1, w/cor at r/a 800 ft to lcn, dr 2900 ft.

WILLACY COUNTY—Ruiz Morton Inc's Francisco Ammendiaz, center lot, little sh 4, Juan Carricitos gr, ru; Johnson-Stilman 1, lot 14, blk 25, sh 44, San Juan de Carricitos, dk. Shell's Yturria Lnd & CC Co 1, sh 64, woc 7666 ft.

ZAPATA COUNTY — Ahler Bros' Daniel Yzaguirre 1, sh 17, proc 15, dk. Mills Bennett Prod Co's F. B. Martinez 1, blk 84, sh 1, El Grullo gr, lcn. W. C. Bob's J. M. Martinez, blk 22, W. R. Duck subd, Randado gr, sd 425 ft. J. D. Long and Sam Evans et al's S. T. Phelps et al 1, 32-ac tr, Vella gr, abnd 1608 ft. H. B. Lewis' S. Benavides 1, blk 39, Villa gr, lcn. Magnolia's Ramona Cuellar 4, sur 245, lcn. Randolph Wheeles' Mrs S. Welsh 1, blk 1, E. K. Bateman sur, Welsh Ind, Pedenel gr, lcn. William H. Winn's Carlos Vela et al 1, blk 6, Jamison subd, porc 20, dr 200 ft. Zapata Corp's Justina Garcia et al 1, sh 3, Comitas gr, lcn.

ZAVALLA COUNTY—J. F. Wilcox J. T. Gillman 1, sec 11, blk B.W.T. and R.Y. sur, dr 1500 ft.

GEOPHYSICAL SOIL SURVEYS FOR OIL
10 Sample Survey $50. Total Cost: Mid-West



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TEXAS GULF COAST

BRAZORIA COUNTY — Pure's Slade 1, Peach Point prospect, S. F. Austin sur, dr shale 1450 ft.

BRAZOS COUNTY—Crosby Dr. Co.'s Lewis Orlando 1, T. H. Mays sur, dr shale 2736 ft.

CHAMBERS COUNTY—Kirby Pet. Co.'s Harden 1, w of Cotton Lake, M. L. Short sur, spudded. Sun's White Estate E-1, Wm. Mays sur, dr shale 8230 ft.

HARRIS COUNTY—B. A. Farrell & J. B. Cox et al's Bender Estate 1, w of Humble field, M. W. Travis sur, reported running 6⅝-in. csg. 1150 ft. Stanolind's Oates 1, Clinton area, C. Martinez sur, set 9⅝-in. csg. 6930 ft; same operator's Warren Minerals 1, Hockley dome, H. & T. B. sur. No. 1, dr shale 6189 ft. Texas Gulf Prod. Co.'s Gillispie & Garnsey 1, Aldine area, S. Contreras sur, dr shale 4308 ft.

JEFFERSON COUNTY—Humble's Jefferson Land Co. 1, Cheek area, C. Hillibrandt sur, dr shale 8389 ft.

LIBERTY COUNTY—Diadem Oil Corp.'s Pickett 1, Devers area, H. & T. B. sur, No. 10, fsh 6846 ft.

MATAGORDA COUNTY — Continental's Robbins 2, Citrus Grove area, C. Franz sur, dr shale 6672 ft. Hammond Exploration Co.'s Crocker 1, South Bay City field, E. Hall sur, milling on tubing 8871 ft. Glenn H. McCarthy's Foley 1, Palacious prospect, L. Goodwin sur, reported coring shale 7950 ft. Strake Pet. Corp.'s Sargent 1, Poole Ranch prospect, L. E. Parker sur, dr shale 9106 ft. Sun's Craig 2, Hawkinsville, J. Williams sur, coring 3735 ft. United North & South Dev. Co.'s Stoddard 1, sw of Buckeye field, J. B. Cotton sur, dr shale 7765 ft.

POLK COUNTY—Mayo et al's Mayes 1, w of Segno, J. G. Loving sur, sd 36 ft.

WALLER COUNTY—Sumas Prod. Co.'s Menke 1, se of Hempstead, C. Donohue sur, dr shale 3920 ft. H. E. Williams' G. C. Giddings 1, near Hempstead, J. Mouser sur, dr 120 ft.

WHARTON COUNTY—Sam G. Harrison's Byerly 1, El Campo prospect, E. T. R. R. sur., No. 27, dr shale 4954 ft. Plummer et al's L. Logue 1, Spanish Camp prospect, S. F. Austin sur., No. 3, dr shale 7692 ft. The Texas Co.'s Kluck 1, Blue Basin prospect, Hyland sur, dr shale 4178 ft; same operator's Weatherer 1, se of Louise field, Ogden sur, woc 51 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—Eastern Shrevetex Oil Corp.'s Mabel George 1, J. S. Powell sur, sd 500 ft. Potsam Oil Co.'s Zion Douglass 2, S. Fields sur, dk. H. H. Alvord's Flannagan 1, L. Womack sur, dk. Kennedy & Batchelor's Lane & Greer 1, J. M. Baker sur, claim so, cemtd 5¾ in csg, td 2336 ft (Tokio).

MARION COUNTY—Ark. Ia. Gas Co.'s W. S. Ford 1, Chas. Grayson sur, elev 332 ft, top massive anhydrite 5588 ft, top Hill 5971 ft, top Gloyd 6085 ft, cemtd 7-in csg 6301 ft, woc, td 6351 ft, black shale. Laura McIntosh 1, Wm. Edmonson sur, elev 272 ft, top Nacatosh 1870 ft, dr 2500 ft. Dunn & Fisher's Susie Chatten 1, L. S. McCoy sur, spd. Holcomb, Thomasson et al's Lizzie Henderson 1, R. Bennington sur, perf csg re-cemtd, dr cement plug to re-test, td 6026 ft, old td 6408 ft. Seymore Oil Co.'s Lucas 1, A. Castleberry sur, dk. A. T. Freet et al's G. C. Bonham 1, Robt. Potter sur, dk.

PANOLA COUNTY—Motex Oil Co.'s J. M. Furrh 1, Thos. Alstone sur, tested sw so 5036 ft, arr deepen, td 5036 ft. R. H. Dearing et al's Wooten Est. 1, Winny Mann sur, mim.

SHELBY COUNTY—H. A. Stebbinger et al's Pickering Lbr. Co. 2, A. Hanson sur, coring 4700 ft.

UTAH

GRAND COUNTY—Columbia Crude Corporation's Rath-Government 1, ne sw 12-25s-20e, cemented 7 in csg 2045 ft and preparing to test.

WYOMING

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw sw 6-19n-83w, testing so in Niobrara shale at 2900-3050 ft.

GOSHEN COUNTY—Ohio Oil Co.'s Red Cloud Cattle Co. 1, ne nw 28-29n-62w, dr 2100 ft in red beds.

LARAMIE COUNTY—Amerada Petroleum Corporation's Morton 1, csw sw 13-13n-68w, dr 8758 ft in Dakota formation.

PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-37n-100w, fsg 5660 ft with td at 5684 ft.

WESTON COUNTY — Conway Oil Co.'s Government 2, se ne nw 7-41n-60w, testing in Minnelusa at 2314-38 ft.

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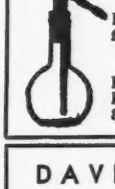

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NEW PRODUCTS FOR THE FIELD
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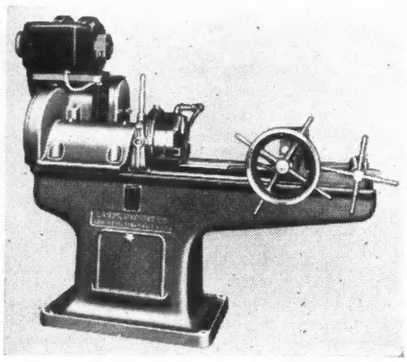
THREADING MACHINE
Landis Machine Company

An improved design of the Landis two-inch threading machine is now being marketed by Landis Machine Company of Waynesboro, Pa. Improvements apply to both the belt and motor driven machines.

Instead of using a cone pulley, power is delivered to the belt driven machine through tight and loose pulleys mounted on the main drive shaft to be driven directly from a line shaft and without a countershaft. A belt shifter is provided for starting and stopping the machine.



Landis Threading Machine

Speed changes are effected through a pick-off gear box conveniently located on the headstock. The machine is regularly supplied with gears to cover a range of 31 to 118 revolutions per minute. With the exception of the lowest two speeds each set of gears will provide two speeds by reversing the gears. A speed change plate is attached to the gear box showing the proper gears for the various speeds.

The bed of the machine has been strengthened by making it thicker and adding more and heavier reinforcing webs. The headstock is mounted directly on the top of the bed, adding to the rigidity of the machine. The coolant pump is mounted close to the bed avoiding overhang and interference with floor space.

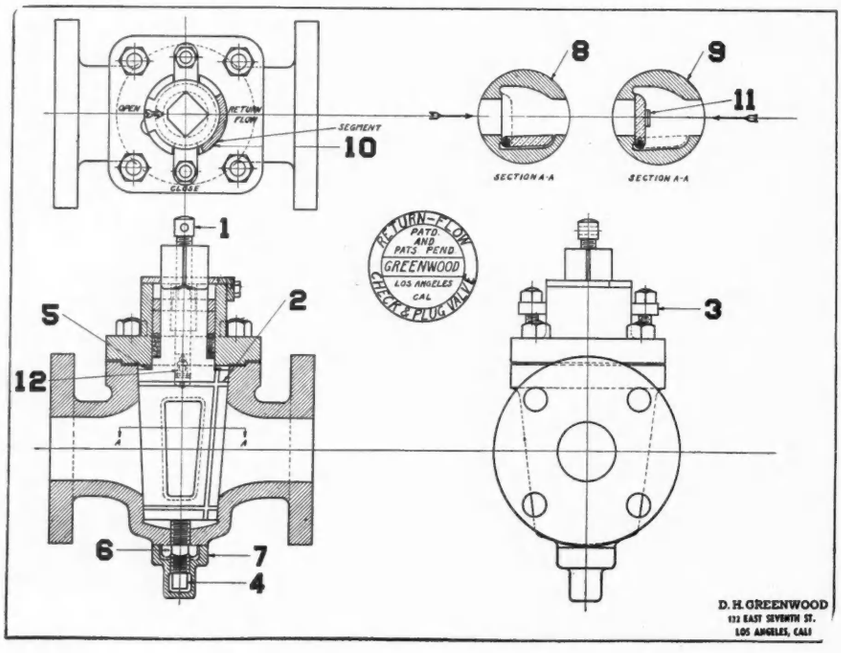
The two-inch Landis threading machine is furnished with either the Landis standard rotary die head or the heat treated Lanco head. The machine is equipped with the same carriage and vise. It can be furnished either with or without a leadscrew. While the machine is slightly heavier than the old machine it requires practically the same floor space.

CENTRIFUGAL PURIFIER
Goulds Pumps, Inc.

Designed primarily for purifying fuel or lubricating oil for Diesel engines in isolated stations where electric power is not available, Goulds Pumps, Inc., Seneca Falls, New York, has just placed on the market a compact, efficient gasoline engine-driven centrifugal purifier.

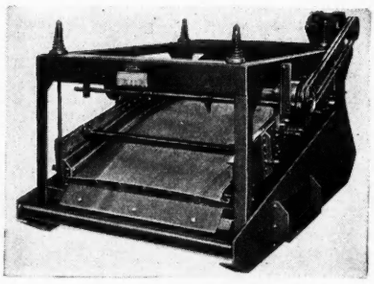
The unit consists of standard series 300 Hydroil Purifier mounted on a drip type bedplate with a Briggs & Stratton 4-cycle engine driver through a special patented slip type coupling, and will provide adequate purification of fuel oil in capacities up to 450 gallons per hour, and lubricating oil up to 300 gallons per hour.

A prominent oil company of the Southwest is using one of these units on a truck for purifying fuel oil in batches at numerous Diesel operated pumping stations.



MUD SCREEN
Allis-Chalmers Manufacturing Company

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has made improvements on its mud screen, or "shale shaker," for reclaiming and conditioning rotary drilling mud. The screen cloth of this mud screen is now



Allis-Chalmers Shale Shaker

made in two sections at different inclinations. This permits of a cleaner separation of mud on the feed end section of the screen and a more rapid discharge of oversize material on the discharge end of the screen. A further improvement has also been made in the mud box, permitting more even distribution of the mud which is passed through the screen cloth. Otherwise the screen, as heretofore, is suspended from springs mounted on a frame that incorporates a complete unit consisting of feed box for either flow pipe or trough connection, motor or turbine mounting, or both, mud box with spout for screened mud, and substantial skids for easy handling. The angle of the screening deck is easily adjustable while the screen is running. This mud screen is of high capacity, with long life screen cloth, and may be set up, or moved to a new location with minimum labor and expense.

CHECK AND PLUG VALVE
D. H. Greenwood

D. H. Greenwood, Transportation Building, Los Angeles, has announced the Greenwood Return Flow Check and Plug Valve, which the manufacturer claims offers a unique feature in valve construction in that it is a lubricated plug valve with a check valve within the plug itself, which acts in either direction of flow. The plug can be turned to control and check the flow in either direction. The check valve within the plug does not reduce the opening.

Plug is lubricated with grease screw No. 1, through double ball check No. 12, in groove No. 2. Valve stem can be repacked under pressure by lifting plug with jack screw No. 4 against sealing ring No. 5. A check valve within the plug No. 8 shows check in open position; No. 9 shows check in closed position.

A return flow valve: To return flow,

remove segment No. 10, turn plug 180 degrees from original open position, place segment on opposite side. A shut-off valve: A check valve in any direction of flow. Will control flow in any direction. All in one valve.

EXPLOSION PROOF MOTOR STARTERS

Westinghouse Electric & Manufacturing Company

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has announced an explosion-proof manual motor starter for control and protection of single phase and polyphase squirrel cage motors where explosion proof equipment is desired. These inexpensive across-the-line starters provide overload protection by the well known disc thermostat, have quick-make and quick-break toggle type mechanism, have trip free handle, are front operating, have long life contacts and corrosion resisting finish on all metal parts.

The starters can be changed from one rating to another by changing heaters. The heater coils may be easily changed without disturbing the trip mechanism. The overload control does not open the circuit on overloads which do not endanger the motor such as heavy starting currents, but opens the circuit after a proper time lag before any damage can be done.

STEAM HOSE

New York Belting & Packing Company

New York Belting & Packing Company has announced a new addition to its line of steam hose. In this new hose, named "Great Seal Asbestos Cord," the manufacturer claims a product which provides outstanding service in superheated steam operations. Made with four asbestos cord plies, wound spirally in alternating directions around a steam and heat resisting tube and embedded in rubber, "Great Seal" has a ply construction which eliminates shearing action when the hose expands or is flexed in service. The asbestos cords will not char under high temperatures and the black heat-resisting cover is specially compounded for this type of service, it is claimed.

The hose is comparatively light in weight, flexible and easy to handle. The spiral cord construction results in a smaller outside diameter than ordinary four-ply asbestos carcass hose. It can also be furnished with special non-static feature built in. It comes in the following sizes, all four-ply: ½-inch, ¾-inch, 1-inch, 1¼-inch and 1½-inch I. D., accommodating pressures ranging from 175 pounds to 200 pounds, depending on the size. Maximum lengths are 50 feet.

Alemite

The Alemite Division of Stewart-Warner Corporation, 1826 Diversey Parkway, Chicago, has published its 1937 industrial catalog—"Alemite Controlled Lubrication." The introduction calls it the "Show Book of the Alemite Systems," and in 56 pages are presented the entire range of Alemite's industrial equipment—hand guns, power-operated units, fittings, hose, valves, meters, etc., including a complete section of hand gun repair parts, simplifying the ordering of parts for standard Alemite equipment.

The book is printed in two colors, and is profusely illustrated with photographs, drawings and diagrams. An interesting feature is the great number of photographs of Alemite equipment in actual use in many different types of industries.

This Week with the Industry's EQUIPMENT SUPPLIERS

LES STAHL

Les Stahl Joins Emsco Derrick

L. W."Les" Stahl recently joined Emsco Derrick & Equipment Company, where he is heading a new department for the development of items of rotary drilling equipment to be new and distinctive in design and concerning which announcements are to be made at a later date. For the present he is located at the home office of the company at Los Angeles.

Stahl, a member of the 1913 class in mechanical engineering at the University of California, began his oil field career with National Supply Company. For five years his duties as field engineer for that company took him to the various oil fields of the Mid-Continent, Gulf Coast and California. In 1936 he entered the engineering department of Wilson-Snyder Manufacturing Company, at Braddock, Pa., for the purpose of developing the line of slush pumps. For several years his time was devoted to oil field pumps and to pipe line and refinery pumping equipment. At the time of the acquisition of the latter company by Oilwell Supply Company and the subsequent merger of these into a subsidiary of United States Steel Corporation, Stahl operated as a field engineer, residing at Houston, Texas. Upon the revival of drilling operations in California he was transferred there as California district engineer for Oilwell Supply Company, which position he held until his affiliation with Emsco Derrick & Equipment Company.

Tom Murphy Joins Martin-Decker Sales Force

Martin-Decker Corporation announces appointment of Tom Murphy as Los Angeles Basin and Coast Territory salesman. After attending U. C. L. A., Murphy worked several years for a major oil company and recently spent considerable time in the Martin-Decker Corporation plant at Long Beach, familiarizing himself with the design and assembly of the company's instruments.

Roy B. Covington Moved to Houston by Republic Supply

Roy B. Covington, who has been manager of the Turnertown, Texas, store for Republic Supply Company, has been made Houston city salesman for the company.

Youngstown Opens Houston Sales Office

The Youngstown Steel Products Company, representing The Youngstown Sheet and Tube Company, has opened a sales office at 1609 Sterling Building, Houston.

Joe M. Jackson is sales manager. R. E. Sherlock is in charge of alloy sales and W. G. Kinglin is field engineer.

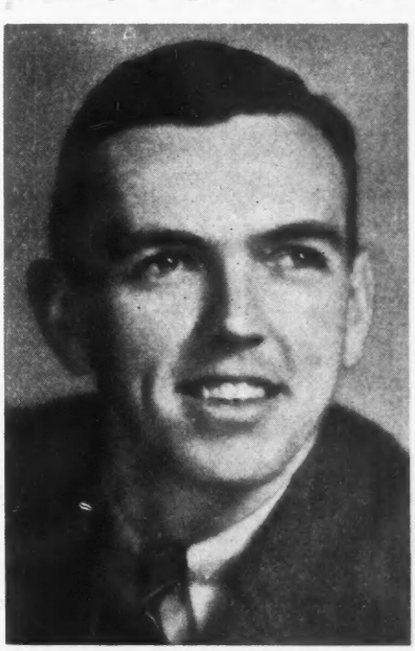
James to Manage Coastal Supply's Houston Store

James W. James has joined Coastal Supply Company to become manager of the company's Houston store. For the past seven years James has been with Continental Supply Company, working in the Gulf Coast territory.

Bantam Company Changes Name

Bantam Ball Bearing Company of South Bend, Indiana, has changed its name to more clearly describe its present day production. The new name is Bantam Bearings Corporation.

When the original company was organized 40 years ago the entire business was devoted to the production of ball bearings. Later Bantam pioneered in roller bearing manufacture. Since that time the acceptance of this type of bearing has grown to the point



TOM MURPHY

where over 90 percent of the company's business is now devoted to the manufacture of taper roller and straight roller bearings.

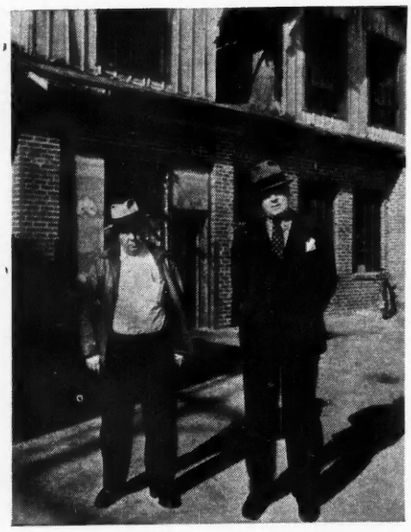
Bantam Bearings Corporation is now a subsidiary of The Torrington Company of Torrington, Conn.

Franks Manufacturing Company Buys Plant

H. H. Franks, president, and Carl White, Jr., vice president of Franks Manufacturing Corporation of Tulsa, announce the purchase of the former Tidal Oil Company warehouse and machine shop here. The firm has been leasing the shops since it was organized in 1931.

The 300x50-foot warehouse, boiler plant, pipe yard, on a 15-acre site, will undergo a complete renovation, and equipment is ordered to increase facilities.

Starting business with but a winch and power take-off unit, invented by Franks, the firm has extended its facilities to include the manufacture of rotary drilling units, spudding units, reels and masts, and its latest offering, a small portable rotary with hydraulic feed, capable of drilling to 3000 feet.



H. H. Franks and Carl White, Jr., of Franks Manufacturing Company, Tulsa, which recently bought the plant building in the background.

Thiokol Synthetic Rubber Used in Largest Scales

The world's largest automatic liquid weighing scale was recently delivered to the Cuban government for weighing cargoes of oil and gasoline, to provide a more accurate basis for the levying of import duties by that government. Satisfactory operation of this scale depends upon the oil-proof character and the flexibility of vital rubber parts. Using "Thiokol" synthetic rubber, the manufacturer was able to give an unconditional oil-proof guarantee on those parts, the manufacturer claims. Of particular engineering interest is the use of "Thiokol" hose and valve seat discs on this machine.

Cuba's big scale weighs 27,500 pounds of gasoline and oil each minute. To convey and weigh this amount accurately, the manufacturer was confronted with the problem of obtaining 12-inch hose which was exceedingly flexible as well as gasoline-proof, as the liquids are conveyed from a feed pipe to two large floating tanks, and any resistance to the delicate movement of the weighing tanks mounted on scale levers would seriously affect the accuracy of the scale. For the same reasons, leakless gasoline-proof rubber valve seat discs were designed and manufactured of "Thiokol" to permit and insure instantaneous stoppage of the liquid flow at exactly the proper moment.

The scale is manufactured by the Richardson Scale Company, and all "Thiokol" parts are produced by the Manhattan Rubber Manufacturing Division.

$200,000 Prize Contest Rules Are Announced

In order to stimulate greater study of arc welding, The James F. Lincoln Arc Welding Foundation recently announced a $200,000 prize contest, and now has made public the rules and conditions that govern it. The contest should attract a number of entries from the petroleum industry, as it has been given a special subclassification.

The $200,000 will be distributed among winners of 446 separate prizes for papers dealing with arc welding as a primary process of manufacture, fabrication, or construction.

The principal prize winner will receive not less than $13,700. Other prizes range from $7,500 to $100, the latter sum to be awarded each of 178 contestants who receive no other prize, but whose papers are judged worthy of honorable mention.

The contest lists 44 sub-classifications among 11 major industry divisions, and petroleum is listed as one of the subclassifications. From the 44 sub-classifications, 220 papers will be selected to receive prizes totaling $81,400. From the 220 papers receiving prizes in the sub-classification, 44 papers will be selected to receive prizes totaling $74,800 in the 11 main classifications. From the 44 papers receiving prizes in the main classifications, papers will be selected to receive the four main contest prizes totaling $26,000.

The winner of the grand prize for the contest will receive $13,700. He will receive the first prize of $10,000 for the contest, the first prize of $3,000 for his main classification and the first prize of $700 for his sub-classification.

Thus, oil men will first compete among themselves for $700, then among men from the following industries: processing, construction, steel making, farming, household, food making, textile and clothing, printing, and industry machinery not otherwise classified. If any of the petroleum papers should be judged winners of the contest among these industries, they then are eligible for the four main prizes.

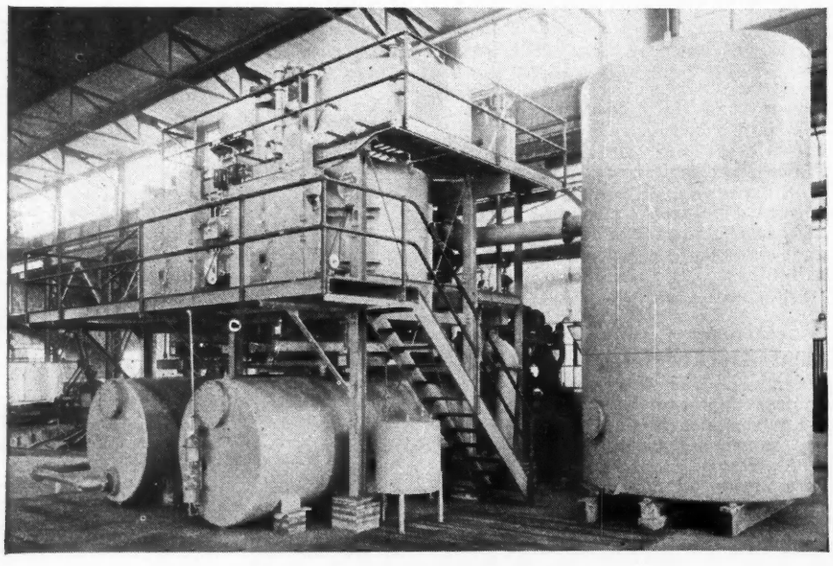
The contest may be entered by any person, or group of two or more persons. However, any contestant, or group, may enter only one paper on only one subject. To be eligible, each contestant must have actually participated in work upon which the subject matter of his paper is based.

The subject matter of the papers must be in one of the three following classes: (A) Redesign of existing machine, structure, building, etc; (B) New design of machine, structure, building, etc, not previously made; and (C) Organizing, developed and conducting a welding service. The machine, structure, building, manufactured or fabricated product under (A) and (B) may be designed either in whole or in part by the use of arc welding. The product must actually have been designed. However, machines, structures, and products designed and sold on the open market, or generally used, prior to January 1, 1937 are excluded.

All papers must be submitted on one side of an 8¼ by 11 inch sheet of paper, and all pages must be securely bound and have a protecting cover. All illustrations and drawings should be bound with the text if possible. Papers must be submitted in duplicate. Each copy should be placed in a separate envelope, and these two envelopes put in a larger one addressed to "Secretary, The James F. Lincoln Arc Welding Foundation, Box 5728, Cleveland, Ohio."

Only papers contained in envelopes postmarked not later than June 1, 1938, and received in Cleveland not later than July 1, 1938, will be accepted. Personal delivery of papers will not be accepted.

For additional information and complete set of rules write the "Secretary, The James F. Lincoln Arc Welding Foundation, Box 5728, Cleveland, Ohio."



Cuba's big scale for weighing oil

Squeaks from the Bull Wheel

The Eyes Have It

"Her eyes roamed carelessly around the room."

"With her eyes she riveted him to the spot."

"He tore his eyes from her face and they fell on the letter at her feet."

"Their eyes met for a long, breathless moment, and swam together."

"Marjory would often take her eyes from the deck and cast them far out to sea."

Loyalty

The prodigal returned very late.

"Where have you been?" asked his indignant wife.

After a moment's reflection he said: "I've been sitting up with a sit-down striker."

Must Have!

"Yes, we spent our holiday touring in the South. It was beautiful down there."

"Motored down, eh? Well, you must have passed some glorious scenery."

"Oh, we must have. Why, we averaged well over 400 miles a day!"

To Be Exact

Mistress (hearing sound of breaking dishes): "Goodness, Mary! More dishes?"

"No, mum, less!"

Uncomfortably Rich

Any instalments due today?

No, dear, I think not.

Any payments due on the house, the wireless set, the furniture, the rugs, or the books?

No.

Then I've $10 we don't need. What do you say if we buy a new car?

Preferred Dead Tax Collectors

An income tax collector had died, and a subscription was raised in a Wall Street office for a wreath. The boss promised five dollars. A few days later, one of the clerks called to collect the money. The chief handed him a ten-dollar note.

"You want five dollars change, sir," said the clerk.

"No," growled the other; "keep it and bury another."

Correct

An amateur dramatic society in Australia was giving a show; an affair with royalty in it.

"Come," said the actor who was playing the king, "let us go into the 'ouse."

There was a titter from the boxes. "He said 'ouse," an occupant remarked.

The actor, overhearing, turned to the offender. "Yus, I said 'ouse—do you think a king would live in hapartments?"

Aged

"Hey, mister! Your engine's smokin'."

"Well, it's old enough."

That'll Do for Today

Lecturer (to pop-eyed listeners): "We were in the heart of the densest jungle. Suddenly there came an ear-splitting roar! I whirled, and there stood a magnificent lion, weighing at lease 1500 pounds. I quickly rolled up my sleeve, and as he charged I tripped him, and captured him alive."

Listener: "What do you do for a living?"

Lecturer (modestly): "Why I'm a lion hunter."

Listener: "Spell it, please."

Courage

Big Game Hunter—Oh, yes, I've been nearly eaten by lions many times, but life without a little risk would be very tame.

Little Man—I agree. Many times, when the weather has seemed doubtful, I have gone without my umbrella.

Well Known "Amateur"

"That football star seems to be rather blue," said the pretty sophomore.

"Yes," replied the dignified senior, "they say his father is always writing to him for money."

Right

What we need is a working majority, and then—.

Better reverse it, mister. What we really need is a majority working.

Necessity!

Two elderly members met at the club after many years. Said one to the other, who was slightly deaf:

"I'm sorry to hear of the death of your wife."

"Eh? What's that?"

"I'm sorry to hear your wife is dead."

"Speak up, man. I can't hear you!"

"I'm sorry you've buried your wife!"

"But I had to. She died."

Improvident

It happened in an Irish police court. An old offender was summoned for being drunk and disorderly.

"Ten shillings or a fortnight," said the magistrate.

"But, sir, I've only got two shillings in the world," said the prisoner.

"Well, you must go to jail. If you hadn't spent the money on drink, you would have been able to pay the fine."

Or Scrape It Off

"Kin you help me? I'm tryin' to git back to me poor old mother. She ain't seen my face for ten years."

"I guess that's true. Why don't you wash it?"

Playing Safe

Model: "The artist made me pose with a rifle in my hands."

Another: "Is he doing a picture of the war?"

Model: "No, he can't trust himself."

Easier

Sam was being implored by a church committee of brethren to contribute to a special fund the church was trying to raise. But Sam was obdurate.

"Well," said one of the brothers with a clincher of an argument, "don't you all think you owes de Lawd anythin'?"

"Oh, ah sure does," said Sam, "only He ain't pressin' me like mah other creditors is."

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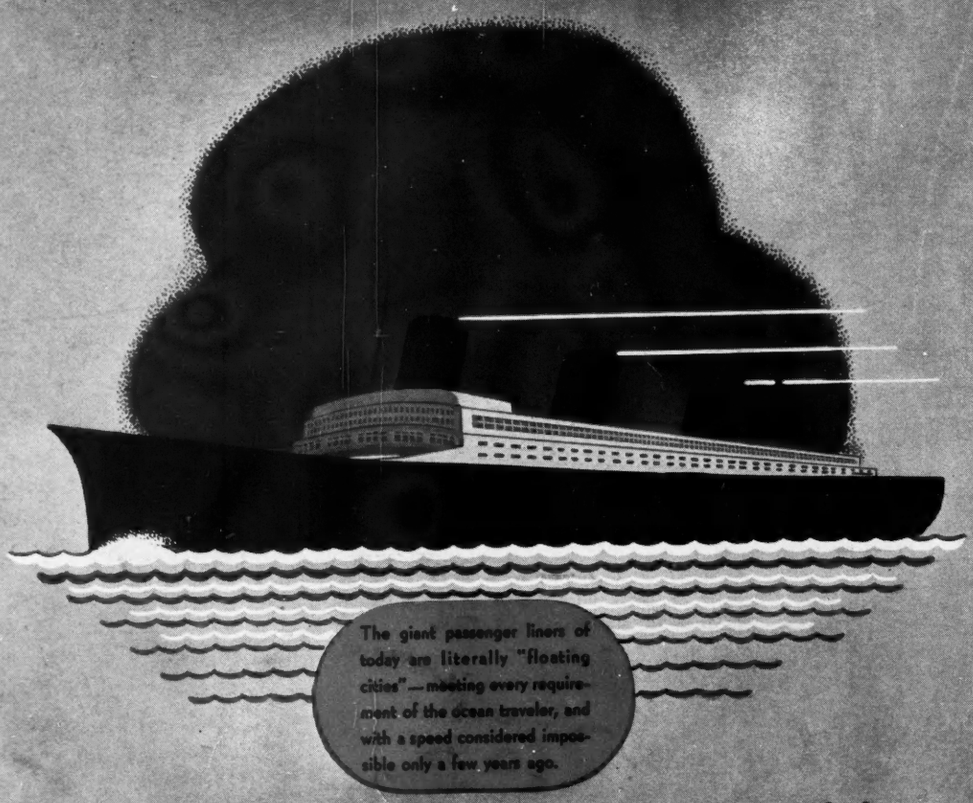

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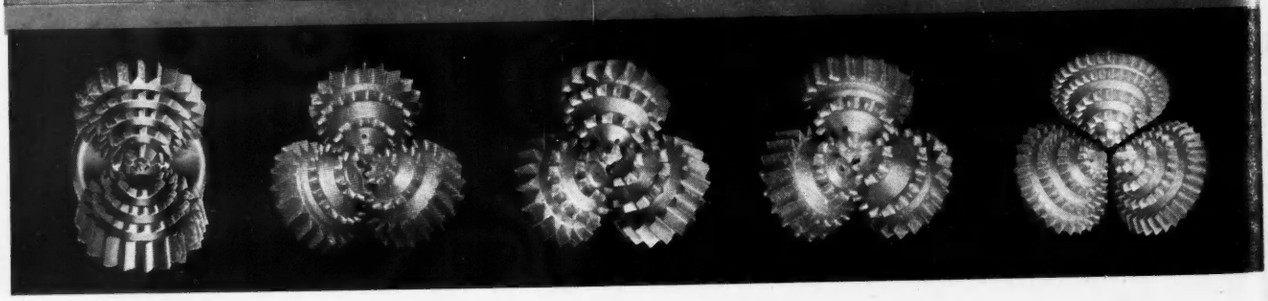
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